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ABSTRACT

Career development, life skills, and basic skills were important emphases in the experience-based career education program installed at two Virginia high schools. The program, call ExCEL (Exploring Careers through Experiential Learning), aimed to provide student experience in community learning sites and to integrate this with acquisition of cognitive, interpersonal, and affective skills gained through participation in a series of planned activities. Efforts were made to tailor the program to meet individual student needs and interests and to minimize sex-role stereotyping on the part of staff or students. Program process objectives were met at each site and two areas of program impact were examined--student outcomes (ajudged in comparison with nonparticipating control groups) and participant-perceived effects. There were positive, significant changes in student attitudes, although there was little gain seen in the areas of basic and life skills. Participants and staff found the program beneficial. (CP)

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ExCEL,

Exploring Careers Through Experiential Learning:

Year Three Evaluation Report

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September 21, 1979

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ExCEL, Exploring Careers Through Experiential Learning: Year Three Evaluation Report was prepared by Joan L. Buttram.

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ExCEL,

EXPLORING CAREERS THROUGH EXPERIENTIAL LEARNING

YEAR THREE EVALUATION REPORT

EXECUTIVE SUMMARY

Exploring Careers through Experiential Learning (ExCEL) was funded as a priority area 1 program under the Vocational Education Act, Part D. ExCEL is an exemplary demonstration of the National Institute of Education's Experience-Based Career Education. ExCEL is a planned adaptation of the Northwest Regional Education Laboratory Model of Experience-Based Career Education to meet the needs of students in Prince William County Virginia. Programs were based at two high schools, Stonewall Jackson and Woodbridge Senior High Schools.

ExCEL has been designed to assist high school students in their successful transition to adulthood. Career development, life skills, and basic skills are emphasized as well as extensive student exposure to and experience in community learning sites. Students' knowledge of a variety of careers is integrated with the acquisition of cognitive, interpersonal, and affective skills through participation in a series of individually planned school and community experiences. Particular emphasis is placed on providing a program of learning for each student tailored to meet identified needs and interests. Effort is also made to reduce or avoid sex-role stereotyping in the program on the part of both ExCEL staff and students.

Evaluation of ExCEL provided for the monitoring and documentation of process objectives and assessment of program outcomes. Evaluation findings are highlighted for each of these separately.

A. Process Objectives

Six process objectives were identified by ExCEL as critical to its successful implementation. Table 1 indicates whether process objectives were met at each high school.

Table 1

ExCEL Accomplishment of Process Objectives

Process Objective	Stonewall Jackson	Woodbridge
Selection and Preparation of Staff	Yes	Yes
Preparation of Learning Resources	Yes	Yes
Selection of Students	Yes	Yes
Preparation of Student Learning Plans	Yes	Yes
Implementation of Learning Activities	Yes	Yes
Avoidance of Sex-Role Stereotyping	Yes	Yes

As indicated in Table 1, all process objectives were met by ExCEL programs at both sites. Only two exceptions were noted. Of some concern was the failure of at least one-fourth of the students to complete

learning levels at community sites which matched any of their top three career choices although sufficient sites were recruited which matched student interests. The second exception concerned the integration of basic skills and career development activities in life skills projects. This was evidenced by the development of separate projects to address student growth in basic skills and the number of learning level projects that emphasized specific job tasks and minimized career development activities. The latter was corrected mid-year as staff developed additional activities to address this weakness.

B. Program Outcomes

Two areas of ExCEL program impacts were examined: student outcomes and participant perceived effects. Each is addressed separately.

1. Student Outcomes

Student outcomes were examined in the areas of career development, life skills, and basic skills. Impacts of ExCEL in all three areas were tested by a pretest-posttest single group design. Results of these comparisons are presented in Table 2. Program impact was not identical at the two high schools. Growth in career development occurred in two areas at Stonewall Jackson High School. Stonewall Jackson ExCEL students demonstrated significant growth in attitude toward careers and in understanding of work. Woodbridge students demonstrated significant growth in job knowledge, employability, and understanding of work. Growth in life skills was limited to one area at each of the two schools. Stonewall

Table 2

Summary of Student Outcome Results

Hypothesis	Stonewall Jackson	Woodbridge
Career Development		
Career Knowledge		
1. Attitude	Significant Improvement	No Improvement
2. Job Knowledge	No Improvement	Significant Improvement
Employability	No Improvement	Significant Improvement
Identification of Career Interests	No Improvement	No Improvement
Understanding of Work	Significant Improvement	Significant Improvement
Life Skills		
Attitude toward Learning Environment	No Improvement	Significant Improvement
Attitude toward Self	Significant Improvement	No Improvement
Attitude toward Others	No Improvement	No Improvement
Basic Skills		
Reading	No Improvement	No Improvement
Writing	No Improvement	No Improvement
Mathematics	No Improvement	No Improvement

Jackson ExCEL students acquired more positive attitudes toward self while Woodbridge ExCEL students developed more positive attitudes toward learning environments. No significant gains in reading or mathematics were demonstrated at either high school.

2. Participant Perceived Effects

In order to obtain perceptions of program impact, students, staff, community instructors, and parents were surveyed at year end. All groups thought students enjoyed participating in ExCEL and developed more career awareness than students enrolled in traditional high school programs. Staff, community instructors, and parents expressed concern over basic skill development. In general, all four groups rated program effects positively.

C. Vocational Education Act-Part D Criteria

Four requirements for U.S.O.E. Priority Area 1 Programs were addressed by the evaluation: (1) elimination of sex bias and sex-role stereotyping, (2) sex fair guidance, counseling, placement, and follow-up, (3) third party evaluation, and (4) process requirements for these programs.

1. Elimination of Sex Bias and Sex-Role Stereotyping

Several dimensions were considered in evaluating the elimination of sex bias and sex-role stereotyping. The selection, development, and alteration of curriculum, instructional materials, and evaluation instruments were found to be sex fair. All students were encouraged to explore non-traditional careers, although few males actually completed non-

traditional career explorations. Male students, in particular, lacked sufficient numbers of appropriate non-traditional work role models.

2. Sex Fair Guidance, Counseling, Placement, and Follow-Up

Evaluation of this requirement considered staff role models, actual student placement, employer seminars, and follow-up. Staff presented themselves as sex fair role models. All students were encouraged by staff to explore non-traditional careers, although few males actually explored non-traditional careers. Sex fair guidance and counseling were provided to students during employer seminars which addressed the issues of non-traditional work roles, male and female sex-role stereotyping, and assertiveness training. Follow-up procedures were implemented during the third year of program operation and reported elsewhere.

3. Provision for Third Party Evaluation

Third party evaluation was provided for ExCEL by RBS. Evaluation measured student outcomes against stated program objectives as well as collected relevant process information.

4. Process Requirements for Priority Area 1 Program

The evaluation addressed all seven process dimensions required by U.S.O.E. Academic credit was awarded by ExCEL for the successful completion of Experience-Based Career Education projects. Student educational programs were based on experiential learning and provided for the integration of career development, life skills, and basic skills. All students had individualized learning plans. Learning centers were established at each high school and student transportation from learning

centers to community sites was provided. Parental consent was obtained for both program and evaluation participation. All U.S.O.E. process requirements were met by ExCEL.

D. Recommendations

The ExCEL program which operated during the past three years will not continue in the Prince William County Public Schools. The experiences of the ExCEL program nevertheless offer valuable guidelines for the operation of future career development and independent study programs in the county; recommendations are directed at the revised alternative education program and not at the continuation of the current ExCEL.

Four recommendations are made for operation of the revised alternative education program. They concern: (1) the provision of additional staff training in curriculum development, (2) maintenance of community career experiences, (3) establishment of student selection criteria, and (4) integration of alternative education program with regular school offerings.

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INTRODUCTION

ExCEL, Exploring Careers Through Experiential Learning: Year Three Evaluation Report is submitted to the Prince William County (Virginia) Public Schools as the last task of an independent third party evaluation. The Prince William County Public Schools was awarded funds under Part D of the Vocational Education Act of 1963 as amended to implement an exemplary demonstration of the National Institute of Education's (NIE) Experience-Based Career Education. A requirement of the competition was the retaining of a third party to conduct an independent evaluation of the processes and outcomes of the exemplary demonstration. The Prince William County Public Schools contracted with Research for Better Schools, Inc. to perform such services for their ExCEL program.

This report is the year end evaluation report of the third year of the ExCEL program. The report documents both program and evaluation processes over the third year of the project.

Chapter I of the report presents a description of the ExCEL program the Prince William County Public Schools intended to implement. Chapter II describes the ExCEL program as it was actually implemented. Chapter III presents the outcomes of the program. Chapter IV compares the implementation of ExCEL to the U.S.O.E. funding criteria. Chapter V presents a summary of and recommendations for ExCEL.

I. PROGRAM DESCRIPTION

I. PROGRAM DESCRIPTION

Exploring Careers through Experiential Learning (ExCEL) was funded as a priority area 1 program under the Vocational Education Act, Part D, as an exemplary demonstration of the National Institute of Education's (NIE) Experience-Based Career Education (EBCE) Model. ExCEL is based on the Northwest Regional Education Laboratory (NWREL) model of EBCE; NWREL EBCE is one of four career education models developed under the sponsorship of the U. S. Office of Education and the National Institute of Education.

ExCEL is a planned adaptation of the NWREL model to the needs of students in Prince William County. The ExCEL program is being implemented at two high schools which are located at opposite ends of the county. Woodbridge Senior High School is on a year-round calendar of 45 in-school days followed by 15 out-of-school days. Stonewall Jackson Senior High School is on a traditional school calendar. Both sites are guided by the same program organization and requirements; each site maintains its own staff, community sites, and learning center resources.

The following description of ExCEL will briefly provide the context within which evaluation conclusions presented in other sections of the report can be interpreted. The description has been derived from three primary sources: the USOE project proposal submitted by Prince William County, NWREL EBCE program materials, and ExCEL program records. A more extensive description of ExCEL is contained in the Year One Evaluation Report and will not be repeated here. This description instead summarizes

program goals and objectives, as well as procedures and staff to accomplish them. Goals and objectives of ExCEL are presented first.

A. Program Goals and Objectives

Experience-based career education has been designed to assist high school students in the successful transition to adulthood. Career development, life skills, and basic skills are emphasized as well as extensive student exposure to and experience in community sites. The overall purpose of the ExCEL program is to develop in students an increased sense of personal worth and self-confidence. This is accomplished by integrating students' knowledge of a variety of careers with the acquisition of cognitive, interpersonal, and affective skills through participation in a series of individually planned school and community experiences with identified learning outcomes. Particular emphasis is placed on learning for each student tailored to meet his/her identified needs and interests. Effort is also made to reduce or avoid sex-role stereotyping on the part of both ExCEL staff and students.

B. Accomplishment of Program Goals

ExCEL has designed the following activities and procedures to accomplish program goals and objectives which provide for organization of student learning, individualization of instruction, student counseling, and learning center and community site resources intended to accomplish student learning. Each of these is described below.

1. Organization of Student Learning

EBCE addressed student growth in three areas: career development, life skills, and basic skills. Each of these has been further explicated by ExCEL.

CAREER DEVELOPMENT	LIFE SKILLS	BASIC SKILLS
Career Knowledge Employability Identifying Interests Understanding Work	Creative Development Critical Thinking Functional Citizenship Personal/Social Development Science Functional Competencies	Reading Mathematics Writing Oral Communication

Career development is provided for by specific program learning activities. Career explorations, learning levels, and skill buildings are designed to facilitate the identification of student career interests, build career knowledge, and develop student understanding of work primarily at community sites. Student journals, employer seminars, and field trips also contribute to student growth in career development.

Life skills development is addressed primarily by completion of individual projects and certification in functional competencies. Additional support is provided by employer seminars and field trips.

Basic skills growth is not specifically addressed by any one program learning activity or requirement of ExCEL. Instead, growth in basic skills is fostered by student development in life skills and career development. Formal courses in reading or mathematics are not offered;

students improve necessary basic skills in order to complete life skills or career development activities. Student journals provide for informal student growth in writing skills.

2. Individualization of Instruction

Although ExCEL has established requirements for all students, individualized instruction is intended. Learning managers negotiate specific requirements with each student. This negotiation process results in the development of individual learning plans based on student needs and interests. In particular, life skills projects and learning level projects for each student are designed to encourage growth in all three curriculum areas: career development, life skills, and basic skills. Individualization of instruction is consequently provided by the development of individual learning projects for students based on particular needs and interests.

3. Student Counseling

In the NWREL EBCE Model, no single staff member is assigned responsibility for providing counseling to students. Instead, all staff counsel students regarding their program performance. Staff ideally develop a counseling plan for each student together. This plan is then consistently followed by all staff in dealing with the student.

4. Learning Center and Community Site Resources

Student learning in ExCEL occurs both at school and at community sites. At the learning center, students engage in work on life skills projects, review resource materials for certification in functional

competencies, and interact with staff concerning their program performance. Community sites foster student growth in career development by providing sites for career explorations, learning levels and skill buildings. Student learning activities that occur at community sites are interfaced with those that occur at each high school's learning center. Together they provide for a comprehensive program of student learning.

C. Program Staffing

Staffing for ExCEL is represented by three groups: (1) High school ExCEL staff, (2) Administrative staff, and (3) the Advisory Council. Each group is described below.

1. High School ExCEL Staff

ExCEL was established at two high schools. Staff available to students at each site include one Employer Relations Specialist and two Learning Managers. The employer relations specialist position at one high school is split between one half-time person and the project coordinator. The employer relations specialists at each site primarily develop employer sites for student placements, monitor student work and progress at employer sites, and counsel students about career development, especially in planning for career explorations and learning levels. Learning managers develop individual student learning plans with accompanying instructional material, supervise student work in the learning centers, and advise students about their progress in ExCEL. Learning managers are charged with the preparation of individual student life skills projects and learning level projects. Staff members share

responsibility for the development and monitoring of student progress in the functional competencies component. A learning aide is assigned to the Stonewall Jackson ExCEL learning center. Each site has been additionally staffed with a clerical aide which provides support services. Staff members also share liaison responsibilities with the Advisory Council.

2. Administrative Staff

Administrative responsibility for the program is held by the Coordinating Supervisor for Vocational and Career Education. A half-time project coordinator is identified to coordinate daily program operations.

3. Advisory Council

In addition to Prince William County Schools administrative support and guidance, ExCEL staff are assisted with program operation by the Advisory Council. It is composed of business, school, and community representatives. During this year of program operation, the Advisory Council first reviewed and approved student program requirements established by ExCEL staff. They then devoted the majority of their time to developing and conducting presentations to the Prince William County School Board supporting the 1979-80 continuation of ExCEL.

II. IMPLEMENTATION OF ExCEL

II. IMPLEMENTATION OF ExCEL

This chapter focuses on documenting the actual implementation of ExCEL. The chapter is organized by elements identified by ExCEL as critical to the successful implementation of the program:

1. Selection and Preparation of Staff
2. Preparation of Learning Resources
3. Selection of Students
4. Preparation of Student Learning Plans
5. Implementation of Learning Activities
6. Avoidance of Sex-Role Stereotyping

The final element, avoidance of sex-role stereotyping, is dealt with in Chapter IV which addresses requirements of the U.S.O.E. competition. The other five elements are discussed below in terms of content, objectives, evaluation procedures, and findings.

A. Selection and Preparation of Staff

Selection and preparation of required program staff is one of the first steps in operationalizing the program. Three professional positions were specified for each ExCEL site: one Employer Relations Specialist and two Learning Managers. Qualifications for all professional staff were developed from guidelines furnished by NWREL EBCE materials.

During the third year of program operation, one staffing change occurred at each high school. At Woodbridge High School, the clerical aide transferred and was replaced near the end of the school year. At

Stonewall Jackson High School, one of the two learning managers resigned at the end of the second year and was replaced during the summer with a qualified and experienced classroom teacher. Remaining staff at both schools provided orientation and assistance to the new learning manager during the summer and over the course of the year. This helped to reduce most of the difficulties generally encountered by staff turnovers.

B. Preparation of Learning Resources

The availability of learning resources is critical to program success. The operating plan provides for both learning center resources and community site resources. Evaluation of this element examines the extent to which planned resources were acquired to meet the needs of participating students.

1. Learning Center Resources

Learning center resources include both facilities allotted for program operation at each site and materials for student learning. Each of these resources is discussed below.

Learning Centers were established at each of the participating high schools during the first year of program operation. Small tables, student record files, and other instructional equipment were obtained for each site. Both high school staffs found the learning centers quarters adequate for their needs.

Instructional materials have been acquired at each high school and organized for individual student projects and resource materials for functional competencies. NWREL EBCE materials were used by program staffs; modifications were made in these materials whenever necessary. Additional learning center instructional materials have been developed by ExCEL staff during both years of operation.

2. Community Site Resources

Community learning sites recruited by ExCEL serve three important functions: (1) career exploration sites and (2) learning level and skill building sites.

Eighty-five career slots at 51 different community sites were recruited by Stonewall Jackson High School for career exploration, learning levels, and skill buildings. Woodbridge High School recruited a total of 117 different career slots at 64 different community sites for similar use. Many of the sites at both high schools offered placement slots in a number of different career opportunities.

Table 3 presents number and area of community learning sites available to students for career explorations, learning levels and skill buildings during this program year. Community sites represented fields of communications, retail sales, health, public, and social services, business administration, education, and legal services. Specific sites available at each high school are listed in Appendix A.

Table 3

Community Sites

Type of Community Site	Stonewall Jackson N	%	Woodbridge N	%
Air Transportation	7	8	4	3
Automotive	6	7	4	3
Business Administration	3	4	5	4
Clerical/Office	7	8	7	6
Communications	3	4	4	3
Education	21	25	30	27
Engineering, Drafting, Data Processing	8	9	8	7
Health Services	9	10	13	11
Law Enforcement/ Legal Services	5	6	7	6
Public Services	4	5	4	3
Retail Sales	4	5	17	15
Social Services	1	1	4	3
Miscellaneous	7	8	10	9
TOTAL	85	100	117	100

ExCEL generally requires each student to complete eight (8) career explorations, three (3) learning levels, and eight (8) functional competencies. Skill buildings function as longer, more in-depth learning levels and may be substituted for learning levels. For the purposes of this report, they will be classified with learning levels. Sufficient numbers of community sites must be recruited to meet career exploration and learning level program requirements as well as students needs and

interests. Community certifiers must also be found to present information related to functional competencies. Recruitment of community sites for each function is discussed below.

a. Career Explorations. As indicated in the previous section, sufficient numbers of sites were recruited by each high school to meet program requirements for career explorations. Community sites should also meet areas of student interest. Table 4 presents number of community sites available for career explorations which matched student career interests.

Table 4

Student Choice of Community Sites for Career Explorations

High School	1st choice		2nd choice		3rd choice	
	n	%	n	%	n	%
Stonewall Jackson	38	84	29	64	25	60
Woodbridge	22	65	21	70	14	82

ExCEL was able to provide career explorations in a majority of students' choice of careers. At Stonewall Jackson High School, 84 percent of the students explored their first choice. Woodbridge High School recruited community sites to meet 65 percent of students' first choice of career. In cases where students' first choice was not met, often second or third choices were met. At both high schools, all students explored at least one of their first three choices of careers. ExCEL was able to provide sufficient numbers and variety of community sites to meet program requirements and to meet the majority of students' interests.

b. Learning Levels. Almost all community sites available for career explorations were available to students for learning levels. Community sites were generally available for use by more than one student. Sufficient numbers of sites were recruited by each high school to meet program requirements.

Learning level community sites must also meet student interests and needs. Table 5 presents number of community sites available for learning levels which matched identified student career interests. At Woodbridge High School, a significant number of students did not identify any career interests; they are excluded from these analyses.

Table 5

Student Choice of Community Sites for Learning Levels

High School	1st choice		2nd choice		3rd choice	
	n	%	n	%	n	%
Stonewall Jackson	33	73	26	58	7	17
Woodbridge	19	56	11	37	9	53

Almost three-fourths of Stonewall Jackson and over half of Woodbridge students completed learning levels at sites which matched their first career choice. One Stonewall Jackson and 4 Woodbridge students did not complete learning levels at any of their three top career choices. Both high schools were able to recruit sufficient numbers of community sites to meet program requirements and student interest although students did not always meet requirements at community sites which matched their

career interests. It may be that after completing career explorations, some students were no longer interested in particular career areas. In other cases, students were allowed to complete learning levels which did not match their top career choices. This suggests that more careful planning and counseling should be involved in student selection of community sites for learning level placements.

c. Functional Competencies. Functional competencies in which students must be certified are reviewed by ExCEL's Advisory Council. For each functional competency, community representatives must be found to present relevant information; they and ExCEL staff then certify student competency. Both high schools were able to recruit community representatives for all functional competencies. A list of functional competencies is contained in Appendix B.

C. Selection of Students

ExCEL provides for the fair and unbiased selection of students. It is also important to obtain a comparison or control sample for program evaluation purposes. The operational plan provided for the unbiased recruitment of students and random selection of students for program and control groups from those recruited. Bias may enter into the selection process only if the recruitment of students results in a bias applicant pool. This section of the report documents recruitment and student selection procedures. The resulting student samples are then demographically described.

1. Student Recruitment

Student recruitment for ExCEL was conducted by program staff at all county high schools, with primary attention given to students at Stonewall Jackson and Woodbridge High Schools. Enrollment was limited to juniors and seniors. No academic, attendance, or disciplinary restrictions were placed on potential applicants. Recruitment was conducted by visits to all sophomore and junior classes and special assemblies. Program staff explained program goals, curriculum, and program benefits and then answered student questions. A slide tape presentation developed by first year ExCEL students was also shown. Students expressing interest were given applications to complete. Parental permission to participate was also required. Evening orientations similar to those held for students were held for interested parents.

All students who submitted complete applications were pretested. Stonewall Jackson and Woodbridge applicants were tested in the spring of 1977. Total number of students tested at Stonewall Jackson and Woodbridge High Schools was 70 and 44 respectively. These students formed the student selection pool for each high school.

2. Student Selection

The operational plan called for 90 students to participate in ExCEL at each high school during the third year. As less than 90 students were recruited at each high school, all students were accepted for participation in ExCEL.

Recruited student samples at each high school are described below. By examining the array of student characteristics, further documentation is provided regarding the fairness of recruitment procedures. Student characteristics include grade level, sex, race, and letter grade average.

a. Grade Level. At Stonewall Jackson and Woodbridge High Schools, students were almost equally split between eleventh and twelfth graders. Table 6 presents information regarding the grade level of students.

Table 6

Grade Level of Recruited Students

Grade	Stonewall Jackson		Woodbridge	
	ExCEL		ExCEL	
	N	%	N	%
11th	39	56	22	52
12th	31	44	20	48
Total	70	100	42	100

b. Sex. Almost equal numbers of both sexes were recruited at Stonewall Jackson High School. Almost two-thirds of the recruited students were females at Woodbridge High School. Information about the gender composition of both high schools is summarized in Table 7.

Table 7

Sex of Recruited Students

Sex	Stonewall Jackson ExCEL		Woodbridge ExCEL	
	N	%	N	%
M	31	44	14	32
F	39	56	30	68
Total	70	100	44	100

c. Race. Almost all of the recruited students at Stonewall Jackson High School were white. At Woodbridge High School, three-fourths of the recruited students were white. Racial composition data are presented in Table 8.

Table 8

Race of Recruited Students

Race	Stonewall Jackson ExCEL		Woodbridge ExCEL	
	N	%	N	%
White	65	96	34	77
Non-white	3	4	10	23
Total	68	100	44	100

d. Achievement Level. The majority of students applying to ExCEL were B or C students. Almost two-thirds were C students at Stonewall Jackson High School. Three-fourths of Woodbridge applicants were C students. Table 9 summarizes letter grade of recruited students at both high schools.

Table 9

Letter Grade of Recruited Students

Letter Grade Average	Stonewall Jackson		Woodbridge	
	ExCEL		ExCEL	
A	2	3	0	0
B	17	24	7	18
C	47	67	29	74
D and below	4	6	3	8
Total	70	100	39	100

e. Summary of Recruited Student Characteristics. In examining the distribution of demographic characteristics, student recruitment was conducted fairly. Although equal numbers of different student groups were not recruited, all student groups were represented in the applicant pool.

3. Student Samples

In the interval between pretesting and program start-up, a number of the recruited students declined to participate in ExCEL. At Stonewall Jackson, approximately one-third of the recruited students elected not to participate. Nine percent of the recruited Woodbridge students chose not to participate; other students asked to enroll in ExCEL at the beginning of the school year. In addition, several 1977-78 ExCEL students at each school asked to continue in ExCEL for a second year. Student samples at the beginning of the school year are described below. Student characteristics described include grade level, sex, race, letter grade average, parental educational and occupational level, student reasons for application to ExCEL, and post-secondary and occupational plans.

a. Grade Level. At both high schools, student grade levels were almost evenly split between eleventh and twelfth graders. Table 10 presents information regarding the grade level of students.

Table 10

Grade Level of Enrolled ExCEL Students

Grade	Stonewall Jackson						Woodbridge					
	New ExCEL		2nd Yr. ExCEL		Total		New ExCEL		2nd Yr. ExCEL		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
11th	25	57	0	0	25	54	25	57	1	20	26	53
12th	19	43	2	100	21	46	19	43	4	80	23	47
Total	44	96	2	4	46	100	44	90	5	10	49	100

b. Sex. Approximately 60 percent of the students enrolled in ExCEL at both high schools were females. Information about the sexual composition of both high schools is summarized in Table 11.

Table 11

Sex of Enrolled ExCEL Students

Sex	Stonewall Jackson						Woodbridge					
	New ExCEL		2nd Yr. ExCEL		Total		New ExCEL		2nd Yr. ExCEL		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
M	17	38	2	100	19	40	17	37	3	60	20	39
F	28	62	0	0	28	60	29	63	2	40	31	61
Total	45	96	2	4	47	100	46	90	5	10	51	100

c. Race. Approximately 90 percent of the students at Stonewall Jackson High School were white. Three-fourths of the Woodbridge students were white. Racial composition data are presented in Table 12.

Table 12

Race of Enrolled ExCEL Students

Race	Stonewall Jackson						Woodbridge					
	New ExCEL		2nd Yr. ExCEL		Total		New ExCEL		2nd Yr. ExCEL		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
White	40	93	2	100	42	93	33	75	4	80	37	76
Non-white	3	7	0	0	3	9	11	25	1	20	12	24
Total	43	96	2	4	45	100	44	90	5	10	49	100

d. Achievement Level. The majority of students enrolling in ExCEL were B or C students. Grade levels of ExCEL students are presented in Table 13.

Table 13

Letter Grade of Enrolled ExCEL Students

Letter Grade Average	Stonewall Jackson						Woodbridge					
	New ExCEL		2nd Yr. ExCEL		Total		New ExCEL		2nd Yr. ExCEL		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
A	0	0	2	100	2	4	0	0	0	0	0	0
B	11	24	0	0	11	23	7	17	0	0	7	16
C	33	73	0	0	33	71	28	70	3	60	31	68
D and below	1	3	0	0	1	2	5	13	2	40	7	16
Total	45	96	2	4	47	100	40	89	5	11	45	100

e. Parental Educational Level. Students who participated in the evaluation of ExCEL were asked to indicate the educational level of each of their parents. At both high schools, approximately three-fourths of the fathers and mothers were at least high school graduates. Tables 14 and 15 respectively present information regarding paternal and maternal levels of education.

Table 14

Paternal Level of Education of Enrolled ExCEL Students

Level of Education	Stonewall Jackson						Woodbridge					
	New ExCEL		2nd Yr. ExCEL		Total		New ExCEL		2nd Yr. ExCEL		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Some high school or less	7	16	1	50	8	18	7	18	3	100	10	24
H.S. diploma	17	40	1	50	18	40	13	33	0	0	13	31
Some college	5	12	0	0	5	11	3	8	0	0	3	7
College degree	9	20	0	0	9	20	12	31	0	0	12	28
Graduate school	5	12	0	0	5	11	4	10	0	0	4	10
Other	0	0	0	0	0	0	0	0	0	0	0	0
Total	43	96	2	4	45	100	39	93	3	7	42	100

Table 15

Maternal Level of Education of Enrolled ExCEL Students

Level of Education	Stonewall Jackson						Woodbridge					
	New ExCEL		2nd Yr. ExCEL		Total		New ExCEL		2nd Yr. ExCEL		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Some high school or less	7	16	1	50	8	17	7	17	2	67	9	20
H.S. diploma	17	38	1	50	18	38	19	46	0	0	19	43
Some college	12	27	0	0	12	26	7	17	0	0	7	16
College degree	6	13	0	0	6	13	6	15	1	33	7	16
Graduate school	2	4	0	0	2	4	2	5	0	0	2	5
Other	1	2	0	0	1	2	0	0	0	0	0	0
Total	45	96	2	4	47	100	41	95	3	5	44	100

f. Parents' Occupational Level. Students were asked to indicate parents' occupational level. At both high schools, approximately half of the fathers were employed as higher executives, business managers, or administrative personnel. Almost half of Stonewall Jackson and Woodbridge mothers were homemakers. Tables 16 and 17 present data concerning occupational level of parents.

Table 16

Occupational Level of Father of Enrolled ExCEL Students

Occupational Level	Stonewall Jackson						Woodbridge					
	New ExCEL		2nd Yr. ExCEL		Total		New ExCEL		2nd Yr. ExCEL		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Higher Executive	4	10	0	0	4	9	6	16	0	0	6	15
Business Managers	12	28	0	0	12	27	6	16	1	33	7	18
Adm. Personnel	4	10	1	50	5	11	7	19	0	0	7	18
Clerical and Sales	3	7	0	0	3	7	2	6	0	0	2	5
Skilled Manual	9	21	1	50	10	23	6	16	0	0	6	15
Machine Operators	4	10	0	0	4	9	1	3	1	33	2	5
Other	6	14	0	0	6	14	9	24	1	33	10	25
Total	42	95	2	5	44	100	37	93	3	7	40	100

Table 17

Occupational Level of Mother of ExCEL Enrolled Students

Occupational Level	Stonewall Jackson						Woodbridge					
	New ExCEL		2nd yr. ExCEL		Total		New ExCEL		2nd yr. ExCEL		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Higher Executive	0	0	0	0	0	0	0	0	0	0	0	0
Business Managers	8	18	0	0	8	17	6	15	1	33	7	17
Adm. Personnel	1	2	0	0	1	2	3	7	0	0	3	7
Clerical and Sales	11	24	0	0	11	23	5	12	0	0	5	13
Skilled Manual	1	2	0	0	1	2	2	5	0	0	2	5
Machine Operators	0	0	0	0	0	0	0	0	0	0	0	0
Homemaker	19	43	2	100	21	45	18	44	1	33	19	46
Other	5	11	0	0	5	11	3	7	1	33	4	10
Total	45	96	2	4	47	100	37	93	3	7	40	100

g. Student Reasons for Application to ExCEL. Students applied to ExCEL in the late spring of 1978. They were asked to rank up to three reasons for applying for enrollment in the program. The most often indicated reason was to find out about careers. Another frequently indicated reason was to receive counseling about post-secondary plans; this accounted for 39 percent of Stonewall Jackson and 39 percent of Woodbridge student applications. Tables 18 and 19 summarize student stated reason for application to ExCEL.

Table 18

Primary Reason for Application of ExCEL Enrolled Students

Primary Reason	Stonewall Jackson						Woodbridge					
	New ExCEL		2nd yr. ExCEL		Total		New ExCEL		2nd yr ExCEL		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Counseling about post-secondary plans	17	39	0	0	17	37	16	39	1	33	17	39
More individual attention	2	5	0	0	2	4	1	2	0	0	1	2
Find out about careers	15	34	1	50	16	35	12	29	1	33	13	30
Learning activities outside school	5	11	0	0	5	11	1	2	0	0	1	2
Program different from regular school	0	0	0	0	0	0	2	5	0	0	2	5
Help in finding a job	0	0	0	0	0	0	2	5	1	33	3	7
Job training	5	11	1	50	6	13	7	18	0	0	7	16
Other	0	0	0	0	0	0	0	0	0	0	0	0
Total	44	96	2	4	46	100	41	93	3	7	44	100

Table 19

Secondary Reason for Application of ExCEL Enrolled Students

Secondary Reason	Stonewall Jackson						Woodbridge					
	New ExCEL		2nd yr ExCEL		Total		New ExCEL		2nd yr ExCEL		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Counseling about post-secondary plans	7	16	0	0	7	16	5	12	0	0	5	11
More individual attention	6	14	0	0	6	13	4	10	0	0	4	9
Find out about careers	12	28	0	0	12	27	10	23	0	0	10	24
Learning activities outside school	2	5	1	50	3	7	0	0	1	33	1	2
Program different from regular school	6	14	0	0	6	13	4	10	1	33	5	11
Help in finding job	1	2	1	50	2	4	8	20	0	0	8	18
Job training	8	19	0	0	8	18	8	20	0	0	8	18
Other	1	2	0	0	1	2	2	5	1	33	3	7
Total	43	96	2	4	45	100	41	93	3	7	44	100

h. Post-Secondary Plans. Students were asked to indicate their first three choices for post-secondary plans. Over one-fourth of the Stonewall Jackson students indicated that their primary choice was enrollment in four year colleges or universities. Over one-third of Woodbridge ExCEL students indicated that their first choice was full-time employment. The most popular second choice at Stonewall Jackson was attendance at a

two year college, at Woodbridge it was full-time employment. Tables 20 and 21 summarize student post-secondary plans.

Table 20

Primary Post-Secondary Plan of ExCEL Enrolled Students

Primary Post-Secondary Plan	Stonewall Jackson						Woodbridge					
	New ExCEL		2nd yr ExCEL		Total		New ExCEL		2nd yr ExCEL		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
FT employment	7	16	1	50	8	17	15	37	0	0	15	35
Military service	3	7	0	0	3	7	5	13	0	0	5	12
Voc. school	6	14	0	0	6	13	6	15	1	33	7	16
Two year college	7	16	0	0	7	15	6	15	0	0	6	14
Four year college	12	27	1	50	13	28	6	15	1	33	7	16
Other	9	20	0	0	9	20	2	5	1	33	3	7
Total	44	96	2	4	46	100	40	93	3	7	43	100

Table 21

Secondary Post-Secondary Plan of ExCEL Enrolled Students

Secondary Post-Secondary Plan	Stonewall Jackson						Woodbridge					
	New ExCEL		2nd yr ExCEL		Total		New ExCEL		2nd yr ExCEL		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
FT employment	7	15	0	0	7	16	10	26	1	33	11	26
Military service	2	5	0	0	2	4	3	8	0	0	3	7
Voc. school	8	19	1	50	9	20	2	5	1	33	3	7
Two year college	13	30	1	50	14	31	8	21	0	0	8	19
Four year college	5	12	0	0	5	11	2	5	0	0	2	5
Other	8	19	0	0	8	18	14	35	1	33	15	36
Total	43	96	2	4	45	100	39	93	3	7	42	100

i. Immediate Occupational Plans. Applicants to ExCEL were asked to state their immediate occupational plans. One-third of the students at Stonewall Jackson High School indicated that they planned to be higher executives, business managers, or administrative personnel immediately after high school. Another 30 percent planned to be clerical and sales workers. Slightly less than one-half of Woodbridge students planned on being high executives, business managers, or administrative personnel. Another 15 percent indicated that they planned to be clerical and sales workers. Table 22 describes students' immediate occupational plans.

Table 22

Immediate Occupational Plans of ExCEL Enrolled Students

Occupational Level	Stonewall Jackson						Woodbridge					
	New ExCEL		2nd yr ExCEL		Total		New ExCEL		2nd yr ExCEL		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Higher Executive	7	16	0	0	7	15	3	8	0	0	3	8
Business Managers	6	13	0	0	6	13	5	14	0	0	5	13
Adm. Personnel	2	4	0	0	2	4	8	22	1	33	9	22
Clerical and Sales	13	29	1	50	14	30	6	17	0	0	6	15
Skilled Manual	9	20	1	50	10	21	5	14	1	33	6	15
Machine Operators	3	7	0	0	3	6	0	0	0	0	0	0
Unskilled	1	2	0	0	1	2	2	6	1	33	3	8
Homemaker	0	0	0	0	0	0	0	0	0	0	0	0
Unemployed	0	0	0	0	0	0	0	0	0	0	0	0
Other	4	9	0	0	4	9	7	19	0	0	7	18
Total	45	96	2	4	47	100	36	100	3	8	39	100

j. Long-Range Occupational Plans. Students were also asked to state their long-range occupational plans. These were in the context of five years after completion of education. Almost half of Stonewall Jackson and Woodbridge students indicated they planned to be employed in higher level occupations five years after completion of schooling. Long-range occupational plans of students are presented in Table 23.

Table 23

Long-Range Occupational Plans of ExCEL Enrolled Students

Occupational Level	Stonewall Jackson						Woodbridge					
	New ExCEL		2nd yr ExCEL		Total		New ExCEL		2nd yr ExCEL		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Higher Executive	7	16	0	0	7	15	3	8	0	0	3	8
Business Managers	6	13	0	0	6	13	5	14	0	0	5	13
Adm. Personnel	2	4	0	0	2	4	8	22	1	33	9	22
Clerical and Sales	13	29	1	50	14	30	6	17	0	0	6	15
Skilled Manual	9	20	1	50	10	21	5	14	1	33	6	15
Machine Operators	3	7	0	0	3	6	0	0	0	0	0	0
Unskilled	1	2	0	0	1	2	2	6	1	33	3	8
Homemakers	0	0	0	0	0	0	0	0	0	0	0	0
Unemployed	0	0	0	0	0	0	0	0	0	0	0	0
Other	4	9	0	0	4	9	7	19	0	0	7	18
Total	45	96	2	4	47	100	36	100	3	8	39	100

k. Summary of Student Characteristics. In examining the distributions of the demographic characteristics, it appears that student groups for ExCEL resembled total high school distributions. Because the two high schools serve somewhat different populations, Stonewall Jackson and Woodbridge ExCEL groups sometimes differed.

D. Preparation of Student Learning Plans

Individual student learning plans establish a method whereby students interact with program resources. These plans ideally should organize each student's activities and guide the impact of program experiences. Learning plans must be carefully constructed with an awareness of both student and resource factors. The objective of this process is to provide each student with a learning plan that is individualized and reflects student needs and interests.

Individual learning plans contain four key ingredients: (1) student's presenting skill levels in three curriculum areas from pretesting, (2) informal staff observation and other assessment information from the school record, (3) goals for student performance during the coming year, and (4) learning strategies or activities by which students will achieve goals.

Project staff share responsibility for developing individual student learning plans. Each learning manager is responsible for approximately half of the students at that particular site. Planning of student learning is centralized with the student's learning manager; additional input is provided by the employer relations specialist, especially in relation to work completed by the student at employer sites.

During the first evaluation site visit, staff identified the requirements for individualized learning plans. Requirements included formal and informal assessment information, goals for student progress, and learning strategies for achieving student goals. Later evaluation site visits focussed on reviewing developed learning plans and projects for implementing these plans.

In order to develop individualized student learning plans and activities staff must have information regarding student skills development. During all three years of program operation, ExCEL staff have relied on pretest information primarily for assessing students' presenting skills in all three curriculum areas. Staff have noted the need for more exhaustive assessment procedures, especially in the area of basic skill development.

Individual learning plans were developed by staff for all students. At Stonewall Jackson High School, the two learning managers developed lists of goals and learning strategies which they felt addressed most student needs. They then checked from these lists particular goals and strategies appropriate for meeting individual student needs. All other staff prepared goals and strategies for individual students.

Staff sometimes had difficulty in establishing specific goals for students due to the lack of additional assessment information. This in turn hampered their development of individualized learning programs to address student deficits; project and evaluation staff devoted a great deal of time to reviewing developed projects. Feedback and suggestions

for incorporating basic skills work into projects were provided by evaluation staff. Many of the learning level projects emphasized specific job tasks and did not provide for career development activities. Project and evaluation staff developed additional activities in the middle of the school year to provide for more career development.

Learning materials which can be adapted to meet student needs and interests are also important in the preparation of individualized student learning plans. During this year of program operation, ExCEL staff relied on NWREL EBCE materials for the basic design of life skill projects. This occurred to a much lesser extent at Stonewall Jackson. Staff at both high schools noted the continuing need to identify more basic skill materials. During this year of operation, ExCEL staff were nevertheless able to rely more on previously developed materials.

E. Implementation of Learning Activities

This section of the report examines the implementation of the ExCEL program. The major learning activities are addressed:

1. Career Explorations
2. Learning Levels/Skill Buildings
3. Functional Competencies
4. Life Skills Projects
5. Student Journals
6. Employer Seminars

Descriptions of each of these activities are contained in the preceding chapter and are not repeated here. Student progress in all six required learning activity areas was monitored. Records were examined during visits to each site as well as after the completion of the third program school year. Learning activities completed by ExCEL students at each high school are presented below.

1. Career Explorations

Eight career explorations were generally required of all ExCEL students. The number of required career explorations was decreased by one for each credit the student enrolled in outside of ExCEL. Actual requirements consequently varied from six to eight. Table 24 summarizes average number of explorations completed by different requirement student groups.

Table 24

Career Explorations

Required Number of Career Explorations Completed	Stonewall Jackson			Woodbridge		
	Mean	Range	N	Mean	Range	N
6	6.0	4-7	30	5.5	3-8	6
7	7.3	6-8	10	7.5	5-10	12
8	6.6	5-8	7	8.0	6-10	21

At Stonewall Jackson High School, approximately 80 percent of the students completed the required number of career explorations. The required number of careers was explored by 75 percent of Woodbridge ExCEL students.

2. Learning Levels/Skill Buildings

In addition to career explorations, all students were required to complete three learning levels or skill buildings at community sites. One student was admitted to the Woodbridge ExCEL program late and was required to complete only two learning levels. Table 25 presents learning levels/skill buildings completed by students at each high school.

Table 25

Learning Levels/Skill Buildings

Required Number of Learning Levels	Stonewall Jackson			Woodbridge		
	Mean	Range	N	Mean	Range	N
2*	-	-	-	0	-	1
3	2.9	1-4	47	2.6	1-3	38

*A single student who enrolled for only part of the school year was required to complete two learning levels/skill buildings.

Ninety (90) percent of the Stonewall Jackson students completed at least three learning levels/skill buildings; the group average of completed learning levels/skill buildings was 2.9. Two-thirds percent of Woodbridge students completed the required number of learning levels/skill buildings. Full-year students at that high school completed 2.6 learning levels/skill buildings.

3. Functional Competencies

Students were required to be certified in eight ExCEL functional competencies this year. At Stonewall Jackson High School, the two second year ExCEL students were not required to complete functional competency requirements again; second year Woodbridge ExCEL students were required to repeat competencies. Table 26 presents number of functional competencies completed by ExCEL students at each high school.

Table 26

Functional Competencies

Required Number of Functional Competencies	Stonewall Jackson			Woodbridge		
	Mean	Range	N	Mean	Range	N
6	-	-	-	2.0	-	1
8	7.6	5-8	45	6.2	1-8	38

*The single part-year student was required to complete only six competencies.

Approximately two-thirds of Stonewall Jackson ExCEL students completed functional competency requirements. Slightly less than half (45 percent) of Woodbridge students were certified in the required number of functional competencies.

4. Life Skills Projects

ExCEL required most students to complete eleven life skills projects. The number of required life skills projects was decreased by one for each course the student was enrolled in. The average number of projects completed by different requirement groups is summarized in Table 27 below.

Table 27

Life Skills Projects

Required Number of Life Skills Projects	Stonewall Jackson			Woodbridge		
	Mean	Range	N	Mean	Range	N
7*	-	-	-	6	-	1
8*	-	-	-	4	-	1
9	8.5	-	30	8.5	6-10	4
10	9.2	5-10	10	9.4	7-11	12
11	8.9	4-11	7	10.2	6-14	21

*Requirements were reduced for two students who entered ExCEL after the beginning of the school year.

At Stonewall Jackson High School, 66 percent of the students met program requirements. At Woodbridge High School, 59 percent of the students completed the required projects.

5. Student Journals

Students were expected to maintain student journals during the course of program year; 36 entries were required of all full-year students. This requirement was generally met by students at Stonewall Jackson and Woodbridge High School. Learning managers were also responsible for responding to student entries. Staff feedback was consistently provided.

6. Employer Seminars

Participation in employer seminars and field trips was required by ExCEL. All students at both high schools fulfilled this obligation.

Employer seminars and field trips sponsored this year at each high school are listed below.

Stonewall Jackson ExCEL Employer Seminars

1. Banking and Credit Presentation by Mr. Don Morgan, United Virginia Bank
2. Presentation on insurance by Mr. Robert Bridges, Nationwide Insurance
3. Fire Emergencies Presentation by Mr. Desmond McCellan, Fire Marshall, Prince William County
4. Police Emergencies Presentation by Officer Jerry Kuehn, Prince William County Police
5. Tour of IBM, Manassas, Virginia
6. Presentation on resume writing, job applications, and college applications by Mr. Robert Humes, IBM Personnel Department
7. Presentation on legal rights and responsibilities by Attorney Richard Boatwright
8. Attorney Gary Howard presided over the ExCEL student mock trial

9. Presentation on taxes by Mr. Peter Chase, CPA

10. Mini-career exploration of IBM conducted by Mr. Maury Gerson, IBM

11. Tour of ABC studios, Washington, D. C.

12. Tour of United Airlines, Dulles Airport

Woodbridge ExCEL Employer Seminars and Field Trips

1. Tour of Patuxent River Wildlife Refuge by Chiefs T. C. Rogers and Randy Arehart

2. Tour of IBM by Mr. Ralph Yost and Maury Gerson

3. Presentation on budgeting time and money and credit and checking by Mr. John Rose, F&M Bank

4. Presentations on budgeting time and money by Ms. Pat Cromie and Debbie Coss, Office of Consumer Affairs

5. Presentation on Non-Traditional Career Roles by Mr. Earl Gates, Flight Attendant, United Airlines

6. Resume writing presentation by Mr. Robert Humes, IBM Personnel Department

7. Presentation on career opportunities in the telephone company by the Personnel Office from C&P Telephone

8. Presentation on budgeting time and money by Mr. Michael McNamee, Sr., CPA

9. Drug presentation by Officer Jerry Exum, Prince William County Police

10. Presentation on social service careers by Mr. Thomas Meagher, Prince William County Social Services

11. Tour and presentation on legal rights and responsibilities by Mr. Norman Waller, Bon Air Learning Center

12. Presentation by League of Women Voters on the electoral process

13. Tour of Prince William County Court complex by Ms. Ann Gray

14. Presentation on drug and alcohol abuse by Sgt. Naman Delise and G. Wayne Davis, U.S. Naval Hospital - Quantico

15. Tour of Potomac Hospital by Ms. Elaine Worthington, Community Relations

16. Presentation on fire and rescue emergencies by Mr. Peter McCallum, Prince William County Fire Services

17. Careers in the Navy presentation by Chief Randy Arehart

18. Presentation on the electoral process by Mr. R. Gnadt, Clerk of the Court, Prince William County

19. Legal rights and responsibilities presentation by Attorney Chuck Sievers

20. Presentation on insurance by Mr. Samuel Bubernak, State Farm Insurance

21. Presentation on rape, burglary, and robbery by Officers Ted McInteer and Roger Barton

III. PROGRAM OUTCOMES

The ExCEL program impacts upon four populations: students, staff, community instructors, and parents. Student outcomes are considered of primary importance; other outcomes as secondary. This consideration is reflected in the organization of this chapter. Student outcomes are discussed first, participant perceived effects follow.

A. Student Outcomes

This section addresses the impact of the ExCEL program on participating students. The evaluation design for assessing student outcomes was initially based on the premise that a true experimental design with program and control students could be established and maintained. This section of the report considers the degree to which the premise of a true experimental design has been met.

Specific issues addressed include the establishment and maintenance of student samples, representativeness of the final ExCEL groups, instruments, evaluation design, hypotheses, analysis plan, and hypothesis testing.

1. Establishment and Maintenance of Student Samples

At the end of the 1978-1979 academic year, eleventh and twelfth grade students from Stonewall Jackson and Woodbridge Senior High Schools were recruited to participate in ExCEL. As insufficient numbers of students were recruited to permit random selection procedures, all interested students were admitted to ExCEL and samples of comparison students were

formed from student rosters at each school. The formation and maintenance of comparison groups for each high school are described below.

a. Formation of Comparison Groups. Federal guidelines require that ExCEL student progress be compared to that of similar students not enrolled in this program. Staff randomly selected students from school rosters to form comparison groups at each of the two high schools. Letters were sent to these students explaining the requirements of the comparison group membership and asking for their assistance. At Stonewall Jackson High School, only 20 students agreed to complete the pretest battery. Woodbridge High School recruited 54 students to complete the pretest battery.

b. Maintenance of Comparison Group Student Samples. Student attrition from educational programs is a phenomenon which presents long-recognized difficulties to all program facets. In the current evaluation, less than one-fourth of the students pretested as part of the comparison groups at either school completed posttesting. Table 28 presents the comparison group sizes at both test administration times.

Table 28

Initial and Final Comparison Group Sizes

Group	Initially Recruited Size	Final Size	Attrition
Stonewall Jackson	20	2	90%
Woodbridge	54	13	76%

Because of the large rate of attrition, the representativeness of the initially recruited and final comparison groups at each high school is doubtful. Remaining samples are additionally too small to allow for valid testing of hypotheses that compare the growth of ExCEL students with that of comparison group students enrolled in the regular school program.

2. Data Representativeness of Final ExCEL Groups

Data representativeness analyses were conducted to examine the comparability of the original and final ExCEL groups at both high schools. Two factors which typically affect the comparability of original and final groups are student attrition during the program year and student absence or unavailability for testing. Both factors reduce the number of complete data pairs available for analyses and may introduce bias into the original distributed array of student characteristics.

Forty (40) percent of the Stonewall Jackson ExCEL students and 38 percent of the Woodbridge ExCEL students were eliminated from the evaluation design. Students were eliminated for two reasons: (1) discontinued participation in ExCEL or (2) failed to complete both pre- and posttesting. The retained and eliminated ExCEL groups at each high school form the samples for analyses of data representativeness. These two groups were compared on grade level, sex, race, and achievement variables. If no significant differences are found between retained ExCEL and ExCEL drop-out students, it can be asserted that no systematic bias affected student attrition during the school year.

Chi-square analyses and "t"-tests for independent samples were used to compare demographic and three academic achievement variables respectively. Tables 29 and 30 present the results of these analyses.

Table 29

Demographic Variables

Comparisons of Retained and Dropped Students

High School	Demographic Variable	Retained	Dropped	x^2
Stonewall Jackson	Grade Level (11/12)	23/19	17/11	<1.00
	Sex (M/F)	15/30	18/12	<1.00
	Race (White/ Non-white)	40/3	28/0	*
Woodbridge	Grade Level (11/12)	18/13	9/11	<1.00
	Sex (M/F)	11/21	6/14	<1.00
	Race (White/ Non-white)	24/8	17/3	<1.00

*The cell frequency of "0" did not allow for a valid test of the representativeness of the retained and dropped students for this variable.

Table 30

Achievement Level

Comparisons of Retained and Dropped Student Groups

Scale Scores

	CTBS Subtest	Retained	Dropped	t
Stonewall ExCEL	Reading Comprehension	630.06	643.13	<1.00
	Arithmetic Concepts	624.97	616.70	<1.00
	Arithmetic Applications	585.57	590.27	<1.00
Woodbridge ExCEL	Reading Comprehension	561.17	610.50	1.78*
	Arithmetic Concepts	533.61	586.94	1.95*
	Arithmetic Applications	525.14	565.94	1.69*

*critical value for two-tailed "t" tests, df $\geq$ 77 = 1.645

The above analyses indicate no significant differences for any of the demographic retained-dropped comparisons at either high school. For achievement level variables, no significant differences were found between Stonewall Jackson retained and dropped students; however significant differences were found between Woodbridge retained and dropped students on all three CTBS measures. The representativeness of the Stonewall Jackson ExCEL group is supported by the results of these analyses; the results do not support the representativeness of the final Woodbridge ExCEL student group. Generalizability of any significant findings of student progress at this high school must be made with extreme caution.

3. Instruments

The Prince William County ExCEL program identified three general areas in which to examine program effects. These areas are: (1) career development, (2) life skills, and (3) basic skills. Additional information regarding basic demographic information on students was also necessary. Instruments selected to address each area are discussed briefly below.

a. Student Demographic Data. A Student Demographic Data Questionnaire (SDQ) was selected to gather information concerning the demographic characteristics of student applicants. The SDQ collects information such as student name, address, telephone, birthdate, sex, grade level, and race. In addition, the SDQ solicits grade average, attendance rate, plans after completing high school, reason for applying to ExCEL, parental occupational and educational level as well as short-term and long-term occupational plans of students.

b. Career Development. Career development is a central area of impact for the ExCEL program. Several instruments were selected to assess student outcomes in this key area.

Three subsets of Assessment of Career Development (ACD) were selected to assess career skills development. They were Occupational Characteristics, Occupational Preparation Requirements, and Career Planning Knowledge. These subtests were designed to measure knowledge of career and occupational facts and sequences.

The Self-Directed Interest Inventory (SDII) provides for the self-assessment of career related skills, abilities, and interests. Students indicate likes and dislikes, activities in which they are competent, and activities in which they are interested. The SDII also reports relative ability in several areas and indicates the sequence of occupations students have considered. Individual sections of the SDII are labelled to reflect categories on which the instrument is based and scored.

The occupations considered and the overall scores are collapsed into six categories which are then ranked: Realistic, Intellectual or Investigative, Social, Enterprising, Artistic, and Conventional. The instrument is based on the premise that individuals seek environments and vocations which are consonant with self-assessment and avoid those which are dissonant. This instrument is based on the Self-Directed Search developed by Holland (1974). The measure that is used to assess career development is the agreement between the primary occupation considered and overall ranking of categories.

The Student Attitude Survey (SAS) is an attitudinal survey which has four scales. Career development is assessed by student responses to one scale, Career Attitude Scale. The Career Attitude Scale is a 22 item Likert-type scale which assesses student attitude toward career knowledge and career planning.

c. Life Skills. Assessment of life skill development is provided by three scales from the Student Attitude Survey. One scale, Attitude

toward Learning Environments, assesses student attitudes toward education in general, attitude toward school curriculum, attitude toward school resources, and attitude toward school counseling. This scale is comprised of 26 Likert-type items. The second scale, Acceptance of Self, is a 19 Likert-type item scale which yields a single self concept score. The final scale, Acceptance of Others, contains 13 Likert-type items related to students' acceptance of others.

d. Basic Skills. The Comprehensive Tests of Basic Skills (CTBS) assess basic academic skill proficiency. It is a standardized instrument with four levels having two alternate forms each. Level 4, appropriate for secondary students, was used. Specific subtests used were Reading Comprehension, Arithmetic Concepts, and Arithmetic Applications.

4. Evaluation Design

The evaluation has been designed to examine student outcomes. Student outcomes are examined in the areas of Career Development, Life Skills and Basic Skills.

A pretest-posttest design was used to assess student outcomes. The pretest administration of the test package was conducted as part of the application process in the late spring of 1978 for Woodbridge and Stonewall Jackson students. The pretest and posttest were administered by ExCEL staff; instruments were administered under conditions prescribed by administration manuals.

Instruments and their time of administration are indicated in the following diagram.

	Time of Administration	
	Pretest	Posttest
1. Student Demographic Data Questionnaire (SDQ)	X	
2. Comprehensive Test of Basic Skills (CTBS)	X	X
3. Assessment of Career Development (ACD)	X	X
4. Self-Directed Interest Inventory (SDII)	X	X
5. Student Attitude Survey (SAS)	X	X

The ACD, CTBS, the SDII, and the SAS were scored by machine using an RBS-developed scoring package. A random sample of student scores were verified to insure the accuracy of the scoring process.

5. Hypotheses

Three areas were selected for formal hypothesis testing of student ExCEL outcomes: Career Development, Life Skills, and Basic Skills. Hypotheses were generated within each of these areas. Hypotheses were initially of two types: Within group hypotheses and Between group or comparative hypotheses. The within group set of hypotheses compares ExCEL program student growth at the end of the program to that at the start of the program in each area. The between group set of hypotheses compare the growth of the ExCEL program students with that of students not enrolled in ExCEL.

Career Development

1. ExCEL students will acquire increased mastery in career knowledge.

2. ExCEL students will acquire significantly greater mastery in career knowledge than comparison students in traditional high school programs.

3. ExCEL students will acquire increased employability.

4. ExCEL students will acquire significantly greater employability than comparison students in the traditional high school programs.

5. ExCEL students will become increasingly able to identify career interests.

6. ExCEL students will become significantly more able to identify career interests than comparison students in traditional high school programs.

7. ExCEL students will acquire an increased understanding of work.

8. ExCEL students will acquire a significantly greater understanding of work than comparison students in traditional high school programs.

Life Skills

9. ExCEL students will acquire increased positive attitudes toward learning environments.

10. ExCEL students will develop significantly more positive attitudes toward learning environments than comparison students in traditional high school programs.

11. ExCEL students will acquire increased positive attitudes toward self.

12. ExCEL students will acquire significantly more positive attitudes toward self than comparison students in traditional high school programs.

13. ExCEL students will acquire increased positive attitudes toward others.

14. ExCEL students will acquire significantly more positive attitudes toward others than comparison students in traditional high school programs.

Basic Skills

15. ExCEL students will acquire increased mastery in reading skills.

16. ExCEL students will acquire reading skills equal to those acquired by comparison students in traditional high school programs.

17. ExCEL students will acquire increased mastery in writing skills.

18. ExCEL students will acquire writing skills equal to those acquired by comparison students in traditional high school programs.

19. ExCEL students will acquire increased mastery in mathematics skills.

20. ExCEL students will acquire mastery in mathematics skills equal to that acquired by comparison students in traditional high school programs.

The relationship between instruments and specific hypotheses is indicated below.

Career Development Skills

Hypothesis 1. (Career knowledge within ExCEL groups) - ACD: Occupational Characteristics and Occupational Preparation Requirements subtests and SAS: Career Attitude Scale.

Hypothesis 2. (Career knowledge between ExCEL and comparison groups) - Same as Hypothesis 1.

Hypothesis 3. (Employability within ExCEL groups) - ACD: Career Planning Knowledge subtest.

Hypothesis 4. (Employability between ExCEL and comparison groups) - Same as Hypothesis 3.

Hypothesis 5. (Career interests within ExCEL groups) ACD: Occupational Preparation Requirements subtest.

Hypothesis 6. (Career interests between ExCEL and comparison groups) - Same as Hypothesis 5.

Hypothesis 7. (Understanding of work within ExCEL groups) SDII: Congruence Index.

Hypothesis 8. (Understanding of work between ExCEL and comparison groups) - Same as Hypothesis 7.

Life Skills

Hypothesis 9. (Attitude toward learning environments within ExCEL groups) - SAS: Attitude Toward Learning Environments scale.

Hypothesis 10. (Attitude toward learning environments between ExCEL and comparison groups) - Same as Hypothesis 9.

Hypothesis 11. (Attitude toward self within ExCEL groups) SAS: Acceptance of Self scale.

Hypothesis 12. (Attitude toward self between ExCEL and comparison groups) - Same as Hypothesis 11.

Hypothesis 13. (Attitude toward others within ExCEL group) - SAS: Acceptance of Others scale.

Hypothesis 14. (Attitude toward others between ExCEL and comparison groups) - Same as Hypothesis 13.

Basic Skills

Hypothesis 15. (Reading Skills within ExCEL groups) - CTBS: Reading Comprehension subtest.

Hypothesis 16. (Reading Skills between ExCEL and comparison groups) - Same as Hypothesis 15.

Hypothesis 17. and 18. Not tested

Hypothesis 19. (Arithmetic skills within ExCEL groups) CTBS: Arithmetic Concepts and CTBS: Arithmetic Applications subtests.

Hypothesis 20. (Arithmetic skills between ExCEL and comparison groups) - Same as Hypothesis 19.

6. Analysis Plan

The analysis plan provides for the testing of all but two hypotheses of student effect. Within group hypotheses are to be tested using the presenting levels of the ExCEL groups as the reference point. Analyses to test between group hypotheses can not be conducted because insufficient numbers of comparison group students completed both pre- and posttests.

For hypothesized effects within the ExCEL groups (Hypotheses 1, 3, 5, 7, 9, 11, 13, 15 and 19), the scheduled analyses were correlated "t" tests for paired data using matched pretest and posttest scores. The SDII portion of hypothesis 7 represents the sole exception to this procedure; chi-square analyses were planned for the pretest to posttest congruence of the primary occupation considered and summary rating. The .05 level of significance was selected for all hypothesis testing.

7. Hypothesis Testing

The series of hypotheses of student outcomes were tested following the analysis plan presented in the previous section. Hypotheses were tested for first year ExCEL students only. The results of the hypotheses testing are presented below.

a. Career Development

Hypothesis 1. ExCEL students will acquire increased mastery in career knowledge.

This hypothesis was tested by comparing the pretest and posttest scores of the ExCEL groups on the ACD: Occupational Characteristics and Occupational Preparation Requirements subtests and the SAS: Career

Attitude Scale. Each of the comparisons was conducted by a correlated "t" test procedure performed on pretest-posttest data pairs for ExCEL students. Tables 31 and 32 present the comparison for the ACD subtests. Table 33 presents the comparison for SAS: Career Attitude Scale.

Table 31

ACD: Occupational Characteristics

High School	Pre	Post	t
Stonewall Jackson ExCEL n = 43	38.67	39.33	<1.00
Woodbridge ExCEL n = 30	34.40	37.50	3.34*

*critical value for one-tailed "t" test, df ≥ 30 = 1.697

Table 32

ACD: Occupational Preparation Requirements

High School	Pre	Post	t
Stonewall Jackson n = 43	12.09	12.42	<1.00
Woodbridge n = 30	11.40	11.20	—

Table 33

SAS: Career Attitude Scale

High School	Pre	Post	t
Stonewall Jackson ExCEL n = 44	3.56	3.97	5.22*
Woodbridge ExCEL n = 31	3.62	3.69	<1.00

*critical value for one-tailed "t" test, df $\geq$ 40, = 1.684

The analyses offer some support for this hypothesis. Stonewall Jackson ExCEL students acquired more positive attitudes toward careers. Woodbridge ExCEL students demonstrated significant growth on the Occupational Characteristics subtest of the ACD. No other measures indicated significant growth for either group.

Hypothesis 3. ExCEL students will acquire increased employability.

This hypothesis was tested by conducting correlated "t" tests on the pretest-posttest data pairs of the ExCEL groups' performance on the ACD: Career Planning Knowledge subtest. Table 34 presents these analyses.

Table 34

ACD: Career Planning Knowledge

High School	Pre	Post	t
Stonewall Jackson ExCEL n = 43	26.33	26.77	<1.00
Woodbridge ExCEL n = 30	23.90	25.87	1.89*

*critical value for one-tailed "t" test, df = 30, = 1.697

Although Stonewall Jackson ExCEL students did not show significant growth, Woodbridge ExCEL students acquired increased employability skills as measured by the ACD: Career Planning Knowledge subtest.

Hypothesis 5. ExCEL students will become increasingly able to identify career interests.

This hypothesis was tested by conducting correlated "t" tests on the pretest-posttest data pairs of the ExCEL groups performance on the ACD: Occupation Preparation Requirements subtest. Table 35 presents these analyses.

Table 35

ACD: Occupation Preparation Requirements

High School	Pre	Post	t
Stonewall Jackson ExCEL n = 43	12.19	12.42	<1.00
Woodbridge ExCEL n = 30	11.40	11.20	—

The analyses offer no support for the conclusion that ExCEL students were increasingly able to identify career interests.

Hypothesis 7. ExCEL students will acquire an increased understanding of work.

This hypothesis was tested by performing a chi-square analysis of the pretest to posttest change of the ExCEL groups' congruence of primary occupation considered to overall summary rating on the SDII. Table 36 presents these analyses.

Table 36

SDII Congruence

High School	Pretest		Posttest		χ^2
	Match	Non-Match	Match	Non-Match	
Stonewall Jackson	20	10	25	5	7.84*
Woodbridge	18	7	20	5	6.26*

*critical value for χ^2, df = 1, = 3.84

The chi-square analyses support the conclusion that ExCEL students acquired an increased understanding of work. Both groups demonstrated greater congruence of primary occupation considered to overall summary rating on the SDII on the posttest than on the pretest.

b. Life Skills

Hypothesis 9. ExCEL students will acquire increased positive attitudes toward learning environments.

This hypothesis was tested by comparing the pretest and posttest scores of the ExCEL group on the SAS: Attitude Toward Learning

Environments scale. This comparison was conducted by a correlated "t" test procedure on pretest-posttest data pairs for ExCEL students. Table 37 presents the comparison results.

Table 37

SAS: Attitude Toward Learning Environments

High School	Pre	Post	t
Stonewall Jackson n = 44	3.35	3.29	—
Woodbridge n = 31	3.29	3.57	2.85*

*critical value for one-tailed "t" test, df $\geq$ 30, = 1.697

The hypothesis was not supported at Stonewall Jackson High School, Woodbridge ExCEL students, however, did acquire more positive attitudes toward learning environments.

Hypothesis 11. ExCEL students will acquire increased positive attitudes toward self.

This hypothesis was tested by conducting a correlated "t" test procedure comparing pretest-posttest performance of ExCEL students on the SAS: Acceptance of Self scale. Results of these comparisons are presented in Table 38.

Table 38

SAS: Acceptance of Self

High School	Pre	Post	t
Stonewall Jackson n = 44	3.60	3.97	5.22*
Woodbridge n = 31	3.47	3.42	—

*critical value for one-tailed "t" test, df $\geq$ 40, = 1.684

Results of the analyses indicate that Stonewall Jackson ExCEL students gained significantly more positive attitude toward self. This hypothesis was not confirmed for Woodbridge ExCEL students.

Hypothesis 13. ExCEL students will acquire increased positive attitudes toward others.

This hypothesis was tested by comparing pretest-posttest data pairs for ExCEL students on the SAS: Acceptance of Others scale by conducting correlated "t" test analyses. The results of these analyses are presented in Table 39.

Table 39

SAS: Acceptance of Others

High School	Pre	Post	t
Stonewall Jackson n = 44	3.77	3.84	<1.00
Woodbridge n = 31	3.68	3.45	—

c. Basic Skills

Hypothesis 15. ExCEL students will acquire increased mastery in reading skills.

This hypothesis was tested by conducting correlated "t" test procedures on ExCEL pretest-posttest scores on the CTBS: Reading Comprehension subtest. The results of these analyses are presented in Table 40.

Table 40

CTBS: Reading Comprehension

High School	Pre	Post	t
Stonewall Jackson n = 43	630.06	627.06	—
Woodbridge n = 25	561.17	534.13	—

This hypothesis was not supported. No significant gains in mastery of reading skills was found for ExCEL students at either high school.

Hypothesis 17. Not tested.

Hypothesis 19. ExCEL students will acquire increased mastery in mathematics skills.

This hypothesis was tested by comparing the pretest and posttest scores of the ExCEL group on the CTBS: Arithmetic Concepts and CTBS: Arithmetic Applications subtests. Each of these comparisons was conducted by a correlated "t" test procedure performed on pretest-posttest data pairs for ExCEL students. Table 41 presents the comparisons for CTBS:

Arithmetic Concepts subtest. Table 42 presents the comparisons for CTBS: Arithmetic Applications subtest.

Table 41

CTBS: Arithmetic Concepts

High School	Pre	Post	t
Stonewall Jackson n = 43	624.97	625.00	<1.00
Woodbridge n = 29	533.61	529.11	—

Table 42

CTBS: Arithmetic Applications

High School	Pre	Post	t
Stonewall Jackson n = 43	585.57	584.61	—
Woodbridge n = 29	525.14	515.18	—

This hypothesis was not confirmed. No significant increase in mastery in mathematics skills was found for ExCEL groups at either high school.

B. Participant Perceived Effects

This section addresses the impact of the ExCEL program on staff, community instructors, parents, and students. The evaluation design for assessing participant perceived effects provides for the surveying of all four participant groups at year end in order to determine their perceptions of ExCEL. Specific issues addressed in this section include brief descriptions of instruments for assessing participant perceptions, procedures employed for obtaining participant perceptions, and results obtained.

1. Instruments

The following instruments were selected for use in this part of the evaluation design:

1. Student Opinion Survey
2. Staff Opinion Survey
3. Community Instructor Opinion Survey
4. Parent Opinion Survey

Each is described in more detail below.

The Student Opinion Survey is designed to measure student opinions concerning career education programs. The instrument contains 20 items incorporating a 5-point interval scale as well as three open-ended items. The items solicit opinions of various program elements, program benefits, and the program relative to standard curricular offerings.

The Staff Opinion Survey contains 20 items incorporating a 5-point interval scale and three open-ended items. The items are designed to

assess opinions towards various program elements, program benefits, and the career education program compared to regular classroom offerings.

The Community Instructor Survey assesses opinions toward various program elements, program benefits, and the program relative to standard curricular offerings. The instrument contains 14 items incorporating a 5-point interval scale and two open-ended items.

Parent opinion toward various program elements, program benefits, and the program relative to standard curricular offerings is assessed by the Parent Opinion Survey. This instrument contains 13 items incorporating a 5-point interval scale and two open-ended items.

2. Survey Procedures

Different survey procedures were used for students and staff than for community instructors and parents. In the case of students and staff, surveys were distributed during the school day and returned to RBS by mail. Program staff did not review individual student responses. Parents and community instructors were mailed surveys which could be returned by mail directly to RBS.

3. Results

Perceptions of each group surveyed are summarized below.

a. Student Perceptions. Surveys were returned by 73 percent of Stonewall Jackson ExCEL students and 69 percent of Woodbridge ExCEL students. Surveys asked for student ratings of achievements of program goals, growth in career awareness, adequacy of community sites and program staff. Table 43 presents responding student ratings.

Table 43

Students Perceptions

Question	Average Response	
	Stonewall Jackson	Woodbridge
Have you enjoyed participating in the Career Education Program?	4.15	4.37
Do you get enough information about how well you are doing in the program?	3.90	3.66
Would you say the Career Education Program has helped you to form career plans?	4.03	4.37
Would you say that you've learned a lot while attending the Career Education Program?	4.18	4.00
If you had it to do over again, do you think you would decide to participate in the Career Education Program?	3.81	3.37
Have the activities available in the Career Education Program been interesting to you?	4.03	4.11
In the Career Education Program have you felt that you could progress at your own rate?	3.96	3.62
Through your experiences in the Career Education Program have you learned a lot about opportunities for the future?	3.96	4.29
Have you had enough choice in selecting the kinds of community resource sites you visit?	3.43	3.92
In general, have community resource personnel involved in the Career Education Program been aware of your needs and interests?	3.87	3.74
In general, at community resource sites have you been able to do things, rather than just listen?	4.06	4.14
In general, have you felt welcome at the community resource sites?	4.06	4.07
How well organized and coordinated do you think the Career Education Program has been?	3.84	3.55
How would you rate the general quality of the Career Education Program staff?	3.69	3.96
How would you rate the personal counseling available in the Career Education Program?	3.63	3.44
How would you rate the overall quality of the Career Education Program activities?	3.87	3.84
How would you rate the general quality of the Career Education Program community resources that you've worked with?	3.69	4.07
In comparison with regular schools, how much opportunity has the Career Education Program provided to you for learning about occupations?	4.21	4.48
In comparison with regular schools, how much opportunity has the Career Education Program provided for your general learning?	3.84	3.66
In comparison with past experiences in regular schools, how motivated have you been to learn in the Career Education Program?	4.00	3.77

Average responses can range from a low of 1.0 to a high of 5.0.

Generally students rated ExCEL high in most areas. At both high schools, ExCEL students rated the program high in providing more opportunity to learn about occupations than regular school and career opportunities in the future. At both high schools, all ratings by ExCEL students were consistently high.

Students were also given the opportunity to respond to two open-ended questions concerning positive and negative effects they've noticed as a result of participating in ExCEL. Students generally felt that one of the program's greatest advantages was the opportunity to explore different career options. In addition, several students felt that the program increased their self-confidence and ability to work independently. Negative aspects included need for increased instruction and concern for basic skill improvement. Overall, students were pleased with their participation in ExCEL.

b. Staff Perceptions. All nine staff members at both sites returned completed surveys. Similar to students, staff were asked to rate achievement of program goals and growth in career awareness along with school and community support, facilities, and staff training. Table 44 summarizes staff perceptions.

Both site staffs felt that students in general gain from program participation and learn more about careers in ExCEL than in regular school programs. Both staffs expressed concern about the possible harm done to other academic areas of the student program. Stonewall Jackson staff rated the overall impact of ExCEL more positively than Woodbridge

Table 44

Staff Perceptions

Question	Average Response	
	Stonewall Jackson	Woodbridge
Do you think students enjoy participating in the Career Education Program?	4.20	4.00
Would you say the Career Education Program helps students to form career plans?	4.20	4.00
Would you say that students learn a lot while attending the Career Education Program?	4.40	3.50
Do you think that students generally gain from their experiences in the Career Education Program?	4.40	4.25
Do you think that students are harmed in other academic areas as a result of being out-of-school for part of their educational program?	2.80	3.00
Do you think that you have been adequately trained to perform your role in the Career Education Program?	3.80	3.50
Do you think that the facilities at your school are adequate to implement the Career Education Program?	3.60	4.00
In general, has your school faculty demonstrated positive support toward the Career Education Program?	2.80	3.50
In general, has your school administration demonstrated positive support toward the Career Education Program?	3.60	2.50
In general, has your community demonstrated positive support toward the Career Education Program?	4.80	4.00
Would you recommend that your school continue its implementation of the Career Education Program?	4.80	4.25
How would you rate the overall conceptualization of the Career Education Program?	4.00	4.00
How would you rate the quality of the materials you have used in the Career Education Program?	3.80	3.75
How would you rate the community component of the Program at your school?	4.80	3.50
How would you rate the Career Guidance component at your school?	4.00	3.00
How would you rate the Basic Skills component of the Career Education Program?	4.00	2.25
How would you rate the overall impact of the Career Education Program at your school?	3.60	2.50
In comparison with regular school programs, how much opportunity does the Career Education Program provide students for learning about occupations?	4.40	4.50
In comparison with regular school programs, how much opportunity does the Career Education Program provide for students' general learning?	3.60	3.50
In comparison with regular school programs, how motivated to learn do you think students are in the Career Education Program?	3.60	3.25

staff. ExCEL staffs reported the need for greater administrative or teacher support to their schools. Overall ratings by both staffs were nevertheless positive. In open-ended comments, both staffs pointed positively to increased student responsibility and independence in directing his/her own learning.

c. Community Instructor Perceptions. Surveys were returned by 56 percent of Stonewall Jackson community instructors and by 43 percent of Woodbridge community instructors. Topics covered in community surveys included achievement of program goals, community/employer reaction to ExCEL, and organization of program. Community instructor perceptions are summarized in Table 45.

In general, community instructors rated all program aspects positively. Community instructors for both high schools rated students enjoyment of program highly as well as the opportunity for students to explore different career options. A number of the responding community instructors expressed some concern about the potential harm to other academic areas of the student program. Community instructors nevertheless expressed strong support for the career development segment of ExCEL.

d. Parent Perceptions. Two-thirds of Stonewall Jackson parents and half of Woodbridge parents returned mailed surveys. Parents were asked to rate achievement of program goals, organization and staff, and comparisons of ExCEL to regular high school programs. Their responses are summarized in the following table.

Table 45

Community Instructor Perceptions

Question	Average Response	
	Stonewall Jackson	Woodbridge
Do you think students enjoy participating in the Career Education Program?	4.50	4.26
Would you say the Career Education Program helps students to form career plans?	4.21	3.98
Would you say that students learn a lot while attending the Career Education Program?	3.96	3.73
Do you think that students generally gain from their experiences in the Career Education Program?	4.23	4.16
On the whole, would you say that your organization gains by participation in the Career Education Program?	3.75	3.46
Would you recommend to other organizations or individuals that they become involved in a Career Education Program?	4.17	3.96
Does your organization plan to continue its involvement with the Career Education Program?	4.04	3.88
How well organized and coordinated do you think the Career Education Program has been?	3.85	3.96
How would you rate the general quality of the Career Education Program staff with whom you've had contact?	4.22	4.33
How would you rate the impact of the Career Education Program on your organization?	3.47	3.43
In comparison with regular school programs, how much opportunity does the Career Education Program provide students for learning about occupations?	4.31	4.40
In comparison with regular school programs, how much opportunity does the Career Education Program provide for students' general learning?	3.67	3.50
In comparison with regular school programs, how motivated to learn do you think students are in the Career Education Program?	3.81	3.54

Average responses can range from a low of 1.0 to a high of 5.0

Table 46

Parent Perceptions

Question	Average Response	
	Stonewall Jackson	Woodbridge
Do you think your child has enjoyed participating in the Career Education Program?	4.50	4.45
Have you received enough information about your child's progress in the Career Education Program?	4.33	3.80
Would you say the Career Education Program has helped your child to form career plans?	4.03	4.15
Would you say that your child has learned a lot while attending the Career Education Program?	4.30	3.80
If you had it to do over again, would you want to have your child participate in the Career Education Program?	4.30	4.15
How well organized and coordinated do you think the Career Education has been?	4.06	4.05
How would you rate the general quality of the Career Education Program Staff?	3.83	4.20
How would you rate the personal counseling available in the Career Education Program?	3.90	3.80
How would you rate the overall quality of the Career Education Program activities?	4.06	3.90
How would you rate the general quality of the Career Education Program community resources your child has been involved in?	4.36	3.90
In comparison with regular school programs, how much opportunity has the Career Education Program provided your child for learning about occupations?	4.56	4.55
In comparison with regular school programs, how much opportunity has the Career Education Program provided for your child's general learning?	3.75	3.80
In comparison with past experiences in regular school programs, how motivated to learn has your child been in the Career Education Program?	4.17	4.00

Average responses can range from a low of 1.0 to a high of 5.0.

Ratings of both high schools parents were very positive. Parents thought that their children had enjoyed participating in ExCEL and had learned more about careers in ExCEL than in regular high school programs. In response to positive effects they've noticed that might have resulted from ExCEL, parents pointed to increased maturity, responsibility, and career awareness. Some parents expressed concern about basic skills development. Parents in general, seemed positive about participation of their child in ExCEL.

IV. VOCATIONAL EDUCATION ACT - PART D CRITERIA

This chapter addresses the criteria under which the competition for Vocational Education Act- Part D funding was conducted. The criteria were listed in the Federal Register of February 24, 1976 (Volume 41, Number 37, pages 8040-8044). Specific topics addressed in this chapter include the elimination of sex bias and sex role stereotyping, sex fair guidance, counseling, placement and follow-up, third party evaluation, and process requirements for a Priority Area 1 Program.

A. Elimination of Sex Bias and Sex-Role Stereotyping

The Federal Register listed three dimensions in considering the degree to which sex bias and sex-role stereotyping are eliminated from program implementation: (1) the selection, development, alteration of curriculum, instructional materials, and evaluation instruments; (2) the placement of young people in explorations and training opportunities without regard to traditional practices in vocational education and employment; and (3) the identification of women and men in non-traditional employment positions to work with students. In addition, other program activities which focused on the elimination of sex bias and sex-role stereotyping are considered. All three are discussed below.

1. Selection, Development, Alteration of Curriculum, Instructional Materials, Evaluation Instruments

Activities to assure the sex fairness of curriculum, instructional materials, and evaluation instruments are reviewed separately.

a. Curriculum. Major curriculum areas of ExCEL include career explorations, learning levels, functional competencies, and life skill projects. The first two are learning experiences which occur at community learning sites. The latter two may be conducted at either community learning sites and/or within the learning center.

Community learning sites were recruited, selected, and developed without regard to the gender of the students who would use the sites. The actual use of community learning sites for explorations and learning levels was monitored by ExCEL staff to insure the sex fairness of the program.

Certifiers of functional competencies were recruited and selected without regard to the gender of the students who would use them. The same certifiers were used by students of both genders.

Life skills projects were developed to meet the individual needs and interests of students. Examination of the products of the life skills projects indicated no bias for members of either gender.

b. Instructional Materials. Instructional materials specific to the ExCEL program are the Learning Site Analysis Forms, materials for functional competencies, and individual learning plans.

A Learning Site Analysis Form was completed for each community site participating in the ExCEL program. Examination by RBS personnel of all of these materials confirmed that they were developed without regard to the gender of students.

Materials were prepared to assist students complete functional competencies. These presented the content or tasks of the competency and directed students to certifiers for the competencies. These materials were prepared without regard to the gender of the student.

Individual learning plans for students are the last of the instructional materials specific to the ExCEL program. These were prepared to meet the needs and interests of each student. Examination of the learning plans indicated no systematic bias against members of either gender.

c. Evaluation Instruments. All instruments used for evaluation purposes have been reviewed by the RBS Institutional Review Board. All instruments have been judged to measure the phenomena they purport. The measures have been approved for use in the evaluation of career education programs.

2. Emphasis on the Placement of Young People in Explorations and Training Opportunities Without Regard to Traditional Practices in Vocational Education and Employment

ExCEL staff at both high schools encouraged students to explore non-traditional careers. Community sites were recruited which would accept students of both gender. Examples of non-traditional careers explored by female students include veterinarian, drafter, physician, law enforcement agent, and attorney. Male students explored such non-traditional careers as elementary teacher, school cafeteria worker, and nurse. Table 47 presents the number of traditional and non-traditional careers explored by male and female students at each high school.

Table 47

Traditional and Non-Traditional Career Explorations

High School	Male		Female		Total	
	N	%	N	%	N	%
Stonewall Jackson						
Traditional	107	96	119	64	226	76
Non-Traditional	4	4	67	36	71	24
Woodbridge						
Traditional	103	97	112	65	215	78
Non-Traditional	3	3	59	35	62	22

Approximately one-fourth of the careers explored by female students were non-traditional. Males, on the other hand, rarely explored non-traditional careers.

3. Identification of Women and Men in Non-Traditional Work Roles to Work With Students

ExCEL is required to recruit community instructors in non-traditional roles who will work with students both at school and community sites. Table 48 presents number of community instructors recruited by ExCEL who are engaged in traditional and non-traditional careers.

Table 48

ExCEL Non-Traditional Role Models

High School	Male		Female		Total	
	N	%	N	%	N	%
Stonewall Jackson						
Traditional	55	98	29	83	84	92
Non-Traditional	1	2	6	17	7	8
Woodbridge						
Traditional	68	99	38	79	106	91
Non-Traditional	1	1	10	21	11	9

Both Stonewall Jackson and Woodbridge High Schools recruited one male community instructor engaged in non-traditional work; they both were employed as an elementary teacher. Female Stonewall Jackson community instructors engaged in non-traditional careers were veterinarians, law enforcement officers, or owned their own businesses. At Woodbridge High School, female community instructors engaged in non-traditional work included a park ranger, mortician, law enforcement officers, pharmacist, or owned their own businesses. All other community instructors were employed in traditional careers.

4. Other ExCEL Activities that Focused on the Elimination of Sex Bias and Sex-Role Stereotyping

Employer seminars were sponsored by ExCEL which focused on eliminating sex bias and sex-role stereotyping. Woodbridge ExCEL students

attended an employer seminar presented by Mr. Earl Gates; he discussed problems that males have in non-traditional careers. Assertiveness training was provided by one of the learning managers at that high school.

B. Sex Fair Guidance, Counseling, Placement, and Follow-up Services

Two dimensions are listed by the Federal Register on which to consider the degree to which sex fair guidance, counseling, placement, and follow-up service was implemented: (1) development of process objectives and measureable student outcome objectives for sex fair guidance and counseling, especially regarding career decision-making and (2) successful placement and follow-up of each and every young person leaving the participating schools. Each is discussed separately.

1. Sex-Fair Guidance, Counseling and Placement

Activities to insure the sex fairness of guidance, counseling, and placement include staff role models and actual student placement.

a. Staff Role Models. Staff presented themselves as sex fair role models. At Stonewall Jackson High School, the female staff member assumed the more traditional male role of employer relations specialist while the two male staff members assumed the more traditional female role of learning manager. At Woodbridge High School, one learning manager position was assumed by a male staff member, the other by a female staff member. One employer relations specialist was male, the other female. At both high schools, staff interacted with each other and with students in a sex fair manner.

b. Actual Student Placement. Community sites for career explorations and learning levels were recruited which would accept students of both gender. Students were encouraged by staff to explore non-traditional careers. One-fourth of the female ExCEL students career explorations were non-traditional. Male ExCEL students, on the other hand, rarely explored non-traditional careers. (See Table 44)

2. Follow-Up

Federal guidelines require the successful placement and follow-up of all students participating in EBCE. Formal follow-up procedures were implemented at the end of the school year. This included the survey of all first and second year program participants to determine their current status as well as their evaluations of program effectiveness. Findings of this follow-up are presented in a separate report.

C. Provision for Third Party Evaluation

This report serves as documentation that Prince William County Public Schools provided for the third party evaluation of ExCEL. Evaluation measured student outcomes against stated program objectives as well as collected relevant process information. All members of the ExCEL staff facilitated and cooperated with this evaluation effort.

D. Process Requirements for a Priority Area 1 Program

Priority Area 1 Programs are required to address the following dimensions as listed in the Federal Register: (1) award academic credit for successful completion of experience-based career education projects,

(2) base the educational program on experiential learning, (3) insure that each student has an individualized learning plan, (4) integrate career development, life skills, and basic skills for overall learning plan, (5) establish learning center, (6) facilitate student transportation, and (7) obtain parental consent for students. Each of these is discussed individually.

1. Award Academic Credit

Students enrolled in ExCEL were awarded academic credit for successful completion of experience-based career education projects. Credit was given in English, social studies, and community experience.

2. Base Educational Program on Experiential Learning

Student educational programs were based on experiential learning that occurs within the high school's learning center and community sites. Students engaged in individually prescribed activities which foster growth in career development, life skills, and basic skills.

3. Insure Individualized Learning Plans

Individualized learning plans were developed for each student; these built on both the student's academic strengths and weaknesses and career interests. Individualized learning plans provided activities and projects for students to complete at community learning sites and at the ExCEL learning center.

4. Integrate Career Development, Life Skills, and Basic Skills in Overall Learning Plan

Individualized learning plans were designed to promote student growth in career development, life skills, and basic skills. Growth in all three areas was facilitated by student completion of required learning activities.

5. Establish Learning Center

Learning centers were established at Stonewall Jackson and Woodbridge Senior High Schools. As well as serving as home base for students and staff, learning centers contained valuable resource information for completing student learning materials.

6. Facilitate Student Transportation

Transportation to community learning sites was provided by bus service routinely contracted by the school district. Students were also permitted to use private transportation when available.

7. Obtain Parental Consent

Students were required to obtain parental consent as part of the recruitment process. Parental consent was obtained for both program participation and evaluation. Evening orientations were held for parents to present program goals, curriculum, and benefits and to answer parent questions.

V. SUMMARY AND RECOMMENDATIONS

The Exploring Careers Through Experiential Learning (ExCEL) program was funded as a priority area 1 program under the Vocational Education Act, Part D, as an exemplary demonstration of the National Institute of Education's (NIE) Experience-Based Career Education (EBCE). ExCEL is a planned adaptation of the Northwest Regional Education Laboratory (NWREL) model of EBCE to the needs of students in Prince William County.

The ExCEL program is being implemented at two high schools which are located at opposite ends of the county. Woodbridge Senior High School is on a year-round calendar of 45 in-school days followed by 15 out-of-school days. Stonewall Jackson High School is on a traditional school calendar. Both sites are guided by the same program organization and requirements; each site maintains its own staff, community sites, and learning center resources.

ExCEL provides for student growth in Career Development, Life Skills, and Basic Skills. Student growth is facilitated primarily through six learning activities which are individualized to meet student needs and interests. Learning activities include career explorations, learning levels and skill buildings, life skills projects, functional competencies, student journals, and employer seminars. Student learning activities occur both at school and at community learning sites.

This chapter summarizes major evaluation findings and makes recommendations for future program operation. Process objectives and program outcomes are addressed separately. Recommendations are then presented.

A. Process Objectives

Six process objectives were identified by ExCEL as crucial to program implementation. Evaluation of process objectives focused on documenting actual implementation of all but one process objective which is addressed as part of U.S.O.E. requirements.

1. Selection and Preparation of Staff

Three professional positions were specified for each ExCEL site: one Employer Relations Specialist and two Learning Managers. During the third year of program operation, one staffing change occurred at each school. Remaining staff provided orientation and assistance to new staff during the course of the year. This helped to reduce most of the difficulties generally encountered by staff turnover.

2. Preparation of Learning Resources

Learning resources are central to program success. ExCEL uses learning center resources and community site resources. The extent to which resources were acquired and prepared for use to meet the needs of students was assessed.

a. Learning Center Resources. Learning center resources included facilities allotted for program operation at each site and instructional materials for student learning. Learning centers were established at each high school. Instructional materials for individual student projects and resource materials for functional competencies have been acquired at each high school. ExCEL staffs at both high schools used NWREL EBCE instructional materials in developing student instructional programs.

b. Community Site Resources. Community learning sites recruited by ExCEL served two important functions: (1) career exploration sites, and (2) learning level and skill building sites. Fifty-one (51) different community sites were recruited by Stonewall Jackson ExCEL for career explorations, learning levels, and skill buildings. Woodbridge High School recruited a total of 64 different community sites. Community sites represented fields of communications, retail sales, health, public, and social services, finance, education, and law enforcement. Learning Site Analysis Forms indicated that recruited community sites provided sufficient activities for student learning and growth of career knowledge.

ExCEL required each student generally to complete eight career explorations, three learning levels, and nine functional competencies. Sufficient numbers of community sites were recruited to meet career explorations, learning level and skill building program requirements. Community certifiers were also found for all functional competencies.

In addition to meeting program requirements, sufficient numbers of community sites had to be recruited to meet students needs and career interests. ExCEL was able to recruit community sites for career explorations and learning levels which matched student interest although students did not always complete learning levels which matched their top three career choices.

3. Selection of Students

The fair, unbiased selection of students was the objective of this process. A secondary objective was obtaining samples for both program

implementation and evaluation purposes. The operational plan provided for the unbiased recruitment of students and a random selection of students for program and control groups.

Student recruitment for ExCEL was conducted by program staff by visits to all sophomore and junior classes and special assemblies. Program staff explained program goals, curriculum, and benefits. Evening orientations similar to those held for students were conducted for parents.

All students who submitted completed applications with parental consent were pretested in the spring of 1978. Total number of students tested at Stonewall Jackson and Woodbridge High School was 70 and 44 respectively. As the operational plan called for 90 students at each school in ExCEL, all pretested students were accepted.

The fairness of student selection procedures was dependent on the fairness of student recruitment procedures. Fairness of student recruitment was supported by the procedures used and examination of recruited students' demographic characteristics. It was concluded that selection of students was conducted in a fair fashion during ExCEL's third year of operation.

4. Preparation of Student Learning Plans

Each student was to be provided with a learning plan which was individualized and reflected student needs and interests. Learning plans were to contain four key ingredients: (1) formal assessment information from RBS pretesting results, (2) informal and other assessment information, (3) goals for student progress, and (4) learning activity strategies for achieving student goals.

Individual learning plans were developed by learning managers for all students. Staff relied almost exclusively on pretest information for assessing students' presenting skills. Scope and detail were occasionally inadequate because staff had little assessment information to rely on. Staff had some difficulty in developing individual basic skill programs for community sites and incorporating career development activities in learning level projects. Project and evaluation staff developed specific activities to remedy these problems during the course of the year.

5. Implementation of Learning Activities

Six major learning activities were required for students by ExCEL. These activities included: (1) career explorations, (2) learning levels and skill buildings, (3) functional competencies, (4) life skills projects, (5) employer seminars, and (6) journals. Requirements varied for different students depending on the number of classes they were enrolled in besides ExCEL. Most students completed required number of activities during this school year.

6. Summary

All process objectives were successfully met. Although community sites were recruited which matched student career interests, of some concern was their failure to complete learning levels at community sites which matched career interests. In addition, staff experienced some difficulty in incorporating basic skills and career development activities in individual student projects. ExCEL and evaluation staff devoted a significant amount of time to this concern.

B. Program Outcomes

Two areas of ExCEL program impacts were examined: student outcomes and participant perceived effects.

1. Student Outcomes

Student outcomes were examined in the areas of Career Development, Life Skills, and Basic Skills. As staffs at both high schools were unable to recruit sufficient numbers of students to serve as control or comparison groups, student outcomes were examined using a pretest-posttest single group design. Results of these comparisons are presented in Table 49 and discussed separately for each skill area.

a. Career Development. Student growth in this area was examined in terms of career knowledge, employability, identification of career interest, and understanding of work. Stonewall Jackson students demonstrated significant growth in attitude toward careers and in understanding of work. Woodbridge ExCEL students demonstrated significant growth in job knowledge, employability, and understanding of work.

b. Life Skills. Student growth in life skills was assessed by attitudinal measures toward learning environments, self, and others. ExCEL students at Stonewall Jackson High School acquired increased positive attitudes toward self; Woodbridge ExCEL students acquired more positive attitudes toward learning environments. No other increases in positive attitudes were acquired by ExCEL students.

c. Basic Skills. Student growth in reading and mathematic skills was examined in terms of basic skill development. No significant increase

Table 49

Summary of Student Outcome Results

Hypothesis	Stonewall Jackson	Woodbridge
Career Development		
Career Knowledge		
1. Attitude	Significant Improvement	No Improvement
2. Job Knowledge	No Improvement	Significant Improvement
Employability	No Improvement	Significant Improvement
Identification of Career Interests	No Improvement	No Improvement
Understanding of Work	Significant Improvement	Significant Improvement
Life Skills		
Attitude toward Learning Environment	No Improvement	Significant Improvement
Attitude toward Self	Significant Improvement	No Improvement
Attitude toward Others	No Improvement	No Improvement
Basic Skills		
Reading	No Improvement	No Improvement
Writing	No Improvement	No Improvement
Mathematics	No Improvement	No Improvement

in mastery of reading or mathematic skills was found for ExCEL students at either high school.

2. Participant Perceived Effects

Students, staff, community instructors, and parents were surveyed at year end in order to obtain their perceptions of program impact. All groups thought students enjoyed participating in ExCEL and developed more career awareness than students in traditional high school programs. Staff, community instructors, and parents expressed concern over basic skill development. All groups in general rated program effects positively.

C. Vocational Education Act - Part D Criteria

Four requirements for U.S.O.E. Priority Area 1 Programs were addressed by evaluation. They were: (1) eliminating of sex bias and sex-role stereotyping, (3) sex-fair guidance, counseling, placement, and follow-up, (3) third party evaluation, and (4) process requirements for these programs. Evaluation findings for each are addressed separately.

1. Elimination of Sex Bias and Sex Role Stereotyping

Several dimensions were considered in evaluating the elimination of sex bias and sex-role stereotyping. Curriculum, instructional materials, and evaluation instruments which were selected, developed, and revised were found to be sex fair. All students were encouraged to explore non-traditional careers, although only female students actually explored non-traditional careers in any number. More female community instructors engaged in non-traditional work were recruited to serve as non-traditional role models this year; few males at both high schools were recruited.

2. Sex-Fair Guidance, Counseling, Placement, and Follow-Up

Evaluation of this requirement considered staff role models, actual student placement, employer seminars, and follow-up. Staff presented themselves to students as sex fair role models. Community sites for career explorations and learning levels were recruited which accepted students of both gender. Students of both gender were encouraged by staff to explore non-traditional careers, although few male students actually completed non-traditional career explorations. Employer seminars addressed issues of non-traditional work roles, male and female sex-role stereotyping, and assertiveness training. Follow-up procedures were continued during the third year of program operation.

3. Provision for Third Party Evaluation

Third party evaluation was provided for ExCEL by RBS. Evaluation measured student outcomes against stated program objectives as well as collected relevant process information.

4. Process Requirements for a Priority Area 1 Program

Priority Area 1 Programs were required to address seven process dimensions. The evaluation considered each of these. ExCEL awarded academic credit for the successful completion of experience-based career education projects. Students educational programs were based on experiential learning. Each student had an individualized learning plan which integrated career developed, life skills, and basic skills. Learning centers were established at each high school. ExCEL provided for student transportation to community learning sites. Parental consent was obtained

for both program and evaluation participation. All process requirements were met by ExCEL.

D. Recommendations

The Prince William County Public Schools has decided not to continue the ExCEL program as implemented during the past three years. The experiences of the program nevertheless offer valuable guidelines and suggestions for the operation of future career development and independent study programs in the county. Recommendations presented below are directed toward the revised alternative education program and not continuation of the current ExCEL program.

1. Additional Staff Training in Curriculum Development

Program staff encountered difficulties in developing individual curriculum programs for basic skills and to a lesser extent, career development. This was especially noted in developing basic skills programs that could be included in experience-based learning programs. Independent study programs should therefore be based on more traditional curriculum approaches. In-service training for staff seems appropriate, especially in the use and application of assessment procedures and curriculum development. Other instructional materials should be acquired which may help staff develop and implement curriculum to meet independent study objectives.

2. Maintenance of Community Career Experiences

Career development curriculum most commonly emphasize student growth in career knowledge, employability, identification of career interests,

and understanding of work. ExCEL fostered student growth in all four areas through a combination of in-school and community experience. In-school activities provided information or knowledge base to students; community experiences allowed students to explore careers and test interests in the real world. Students, staff, community representatives, and parents all stressed the importance and value of students exploring careers in the community. It is therefore recommended that the revised career development curriculum include some time for students to examine careers of interest in actual work settings.

3. Establishment of Student Selection Criteria

No selection criteria were established for ExCEL during its three years of operations. Federal regulations required that the program be open to all students enrolled in the high school. ExCEL programs at both high schools experienced problems with attrition during all three years. Part of this attrition resulted from the mismatching of students to ExCEL. In order to avoid similar problems, student selection criteria should be clearly stated, distributed to all relevant parties, and followed in enrolling students in future programs.

4. Integration of Alternative Education Program with Regular School Offerings

Alternative education programs generally require some time initially to gain teacher, student, and parent acceptance. ExCEL students and staff often faced negative criticism from their peers because of lack of information and other misunderstandings. This situation can be minimized by scheduling orientations in regular teacher meetings and publicizing

program goals and objectives with students. Development of independent study curriculum also provides an opportunity for regular and alternative education staff to work closely together. District and building administration should also take active roles in the design of the alternative education program so that it reflects and responds to the particular needs of each high school.

REFERENCES

Holland, J. L. "A theory-ridden, computerless, impersonal, vocational guidance system." Journal of Vocational Behavior, 1971, 2, 167-176.

APPENDIX A

CAREER EXPLORATION, LEARNING LEVEL, AND SKILL BUILDING COMMUNITY SITES

STONEWALL JACKSON ExCEL COMMUNITY LEARNING SITES

1. ABC - Washington, D. C.
2. Annaburg Nursing Home
3. Baker Funeral Home
4. C&C Performance
5. Caudle Construction, Inc.
6. Colgan Airways Corp.
7. Commonwealth Hospital - Doctor's Clinic
8. Dr. Michael Coppa
9. Del Rose Florist
10. Dudley Martin Chevrolet, Inc.
11. Goodyear Tire Center
12. Gregory Construction Co., Inc.
13. Harley-Davidson
14. International Business Machines
15. Jeanette's Bride'n Boutique
16. Kinder Care Learning Center
17. Lake Jackson Kennel
18. Manassas Business Office
19. Manassas National Battlefield Park
20. Marumsco Plumbing and Heating
21. Morvan Park International Equestrian Institute
22. New Dominion School
23. Northern Virginia Community College

24. Old Dominion Kawasaki
25. Parkside Middle School
26. Phase IV, Inc.
27. Piedmont Aero
28. Dr. Del Pilar
29. Prince William Animal Hospital
30. Prince William Broadcasting Corporation (WPRW)
31. Prince William County Data Processing
32. Prince William County Fire Services
33. Prince William County Police Department
34. Prince William County School Board Community Relations
35. Prince William County Sheriff's Department
36. Prince William Electric Cooperative
37. Prince William Hospital
38. Queen Electronics, Inc.
39. Dr. Richard Ray, O.D.
40. S & S Products
41. St. Thomas Methodist Church
42. Sinclair Elementary School
43. Smith & Davenport
44. Law Office of Bill Stephens
45. Stonewall Middle School
46. R. B. Thomas
47. United Airlines

48. U. S. Department of Agriculture, Food & Nutrition Service

49. Virginia Tech Extension Service, Prince William County Unit

50. Byron C. Woodside, Inc.

51. Dr. A. J. Zeller

WOODBRIDGE ExCEL COMMUNITY LEARNING SITES

1. Ann Ludwig School
2. Anthony Pools, Inc.
3. Bon Foods
4. Boulevard Sports
5. Camp Tapawingo
6. Challenge, Inc.
7. Cope Ford
8. Crest Books
9. Cunningham - Mountcastle Funeral Home
10. Deepwood Veterinary Center
11. Dumfries Garage
12. ENPROCO Drafting School, Inc.
13. E-Z Cruz
14. Featherstone Elementary
15. Fred Lynn Middle School
16. Gar-Field Senior High School
17. Gar-Field Substation
18. Godwin Middle School
19. Greenword Studios
20. Gullette & Vogel
21. Russ Haight Graphics
22. Holiday Inn
23. International Business Machines

24. Kerrydale Elementary
25. Klawans Chevrolet
26. Langefeldt Art Gallery
27. Lynn Electric
28. Marty's Men Shop
29. Mason Neck Wildlife Refuge
30. Raymond R. Niles, Jr., D.D.S.
31. Northern Virginia Community Center
32. Occoquan Elementary School
33. Occoquan Inn
34. Parker's Sporting Goods
35. Peebles Department Store
36. Peoples Drug Store
37. Prince William County Clerk of Circuit Court
38. Prince William County Fire and Rescue
39. Prince William County Forest Park
40. Prince William County Library - Potomac Branch
41. Prince William County Police Department
42. Prince William County School Board Data Processing Center
43. Prince William County School Board Print Shop
44. Prince William County Schools Media Center
45. Prince William County Sheriff's Department
46. Prince William County Social Services
47. State Farm Insurance

48. Stephens Towne and Country Furniture
49. Steven-Windsor
50. Triangle Jewelers
51. United Airlines
52. Universal Divers Supply
53. United States Army Engineer School
54. U. S. Naval Hospital - Quantico
55. U. S. Navy Recruiting Station
56. Venus Beauty Salon
57. VEPCO
58. Virginia Kart and Cycle
59. Woodbridge Animal Hospital
60. Woodbridge Jewelers
61. Woodbridge Middle School
62. Woodbridge TV
63. WPWC - Happy Broadcasting Company, Inc.
64. Wynn Optometrist

APPENDIX B

ExCEL FUNCTIONAL COMPETENCIES

REQUIRED COMPETENCIES

1. Transact Business on a Credit Basis and Maintain a Checking Account
2. File State and Federal Income Tax
3. Provide Adequate Insurance for Yourself, Your Family and Possessions
4. Respond Appropriately to Fire and Police Emergencies
5. Budgeting Time and Money
6. Electoral Process: Knowledge of Local and State Government
7. Resume Writing/Job Application/College Application
8. Legal Rights, Responsibilities, and Services